

Cal-Van TOOLS





Displays & Merchandisers

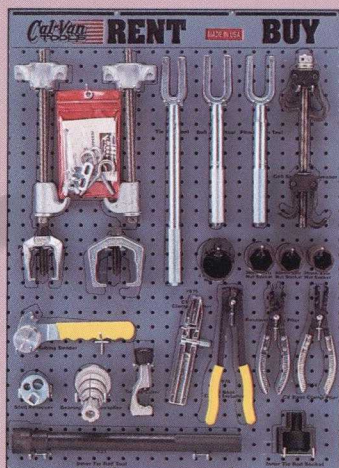
Increase your specialty tool profits with Cal-Van displays and merchandisers. Our popular Rotary, Wall-Mount and Waterfall displays provide a complete assortment of specialty tools.

To tap into specific market segments, select from our various wall merchandisers, including: Cup-Type Oil Filter Wrench display, Clutch Aligning Tool display, Spindle Lock Nut displays, TORX® & Bit displays and Cal-Van's Rent Or Buy merchandisers.

For a complete look at all of Cal-Van's displays and merchandisers, please request a Cal-Van Display & Merchandiser brochure. All displays and merchandisers are drop-shipped, freight pre-paid.



No. 5080 8-Foot Waterfall Display featuring 144 fast moving tools in a space saving arrangement. Also available in 4-Foot length with 75 tools. Wall-mount or Freestanding.



Cal-Van's popular Rent or Buy program adds two new dimensions to specialty tool profits. Four display assortments to choose from. Includes instructional tool videos.

No. 3100 Series Rotary Display is Cal-Van's most popular selling system. This 3 to 6 panel display features up to 185 of Cal-Van's fastest moving part numbers. Also available in wall-mount configuration, No. 4100 Series.



(Pictured: No. 3100)

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FULL TOOL LIFE WARRANTY

Cal-Van Tools are engineered and manufactured to the highest quality standards. Each tool is backed by a Full Tool Life Warranty which guarantees all tools from manufacturing and material defects. Any tool which fails to perform under normal use can be returned to the point of purchase for warranty. It is Cal-Van's option to replace or repair any tool found defective in workmanship or material.

This warranty does not apply to tools that are worn beyond their serviceable life, abused, altered or misused in any way. This warranty does not apply to wearable items, including, but not limited to: hone stones, razor blades, bulbs, files, snap rings, dies, rethreaders, drills or cutting tools. Torque Wrenches (pg. 116), Flex® Hones (pg. 37, 52) and Mityvac® kits (pg. 22) are covered under limited warranties - for specifics, refer to the catalog page they are featured on.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

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A NOTE TO INVENTORS

Inventors, mechanics, technicians, Do-It-Yourselfers:

Have you invented a new tool? Do you have an improvement to an existing tool? If so, Cal-Van Tools is interested in evaluating your idea for manufacturing and distribution. Call or write Cal-Van Tools for a disclosure form.



NEW PRODUCTS



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Battery Carrier • Battery Filler • Battery Terminal Bolt Plier • Terminal Clamp Spreader • Battery Cable End & Bearing Puller • Battery Post & Terminal Clamp Brush • Side Terminal Battery Brush • GM Side Terminal Battery Wrench • Pocket Battery Tester • Battery Hydrometer • Ford Ignition Wrench • Distributor & Carburetor Adjusting Tool • Distributor Brush • Remote Starter Switch • Test Lead Kit • Electric Circuit Tester • Battery Powered Continuity Tester • Wire Piercing Guide • Short Circuit Tester • Current Indicator • Dual Fuse Puller • GM Code Access Key • Auto Computer Memory Unit • Fuel Tank Sender Unit Wrench • Spark Catcher • Spark Plug Firing Indicator • High Energy Ignition Tester • Spark Plug Boot Puller • Insulated Boot Puller Plier • GM Spark Plug Shield Remover • Wire Striper, Crimper & Bolt Slicer • Ignition Point Files • Twistones • Extended Spark Plug Socket • Spark Plug Hole Thread Chasers • Feeler Gauges • Combination Tune-Up Gauge • Ignition Gauge • Overhead Valve Gauge • Tappet & Ignition Gauge • Wire Spark Plug Gauge • Round "Key Chain" Spark Plug Gauge • Battery Carrier • Battery Filler • Battery Terminal Bolt Plier • Terminal Clamp Spreader • Battery Cable End & Bearing Puller • Battery Post & Terminal Clamp Brush • Side Terminal Battery Brush • GM Side Terminal Battery Wrench • Pocket Battery Tester • Battery Hydrometer • Ford Ignition Wrench • Distributor & Carburetor Adjusting Tool • Distributor Brush • Remote Starter Switch • Test Lead Kit • Electric Circuit Tester • Battery Powered Continuity Tester • Wire Piercing Guide • Short Circuit Tester • Current Indicator • Dual Fuse Puller • GM Code Access Key • Auto Computer Memory Unit • Fuel Tank Sender Unit Wrench • Spark Catcher • Spark Plug Firing Indicator • High Energy Ignition Tester • Spark Plug Boot Puller • Insulated Boot Puller Plier • GM Spark Plug Shield Remover • Wire Striper, Crimper & Bolt Slicer • Ignition Point Files • Twistones • Extended Spark Plug Socket • Spark Plug Hole Thread Chasers • Feeler Gauges • Combination Tune-Up Gauge • Ignition Gauge • Overhead Valve Gauge • Tappet & Ignition Gauge • Wire Spark Plug Gauge • Round "Key Chain" Spark Plug Gauge • Battery Carrier • Battery Filler • Battery Terminal Bolt Plier • Terminal Clamp Spreader • Battery Cable End & Bearing Puller • Battery Post & Terminal Clamp Brush • Side Terminal Battery Brush • GM Side Terminal Battery Wrench • Pocket Battery Tester • Battery Hydrometer • Ford Ignition Wrench • Distributor & Carburetor Adjusting Tool • Distributor Brush • Remote Starter Switch • Test Lead Kit • Electric Circuit Tester • Battery Powered Continuity Tester • Wire Piercing Guide • Short Circuit Tester • Current Indicator • Dual Fuse Puller • GM Code Access Key • Auto Computer Memory Unit • Fuel Tank Sender Unit Wrench • Spark Catcher • Spark Plug Firing Indicator • High Energy Ignition Tester • Spark Plug Boot Puller •

ELECTRICAL

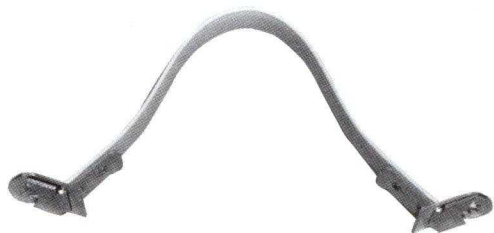


No. 540, 541 BATTERY CARRIER

Made of acid-proof, rib-molded, non-slip, vinyl plastic. Patented self-locking jaws.

No. 540 Ideal for carrying 12 volt batteries up to 17" (432mm) long.

No. 541 Designed for carrying 12 and 24 volt batteries up to 24" (610mm) long.



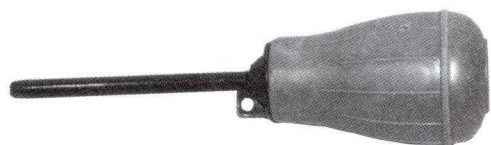
No. 539 COMBINATION BATTERY CARRIER

This 2-in-1 battery strap is designed to carry both side-terminal or top-post type batteries. Strap made of tough acid-resistant plastic. Screws may be used as charging adapter on side terminal batteries. Strap 14-1/2" (368mm). Bolt size 3/8" x 16 for side terminal batteries.



No. 537 BATTERY CARRIER

Designed to protect soft-sided, sealed life-time batteries. Padded rubber and grooved for better grip of battery. Vinyl handle for easy lift and carry. Fits all 4" to 7" (102 - 178mm) batteries, including side post batteries.



No. 546 BATTERY FILLER

This straight tip, hard rubber, long nozzle-type filler has positive leak proof action. Made of high quality synthetic rubber to resist acid and retain shape.



No. 547 BATTERY TERMINAL BOLT PLIER

Designed to give maximum leverage. May be used on square, hex or round nuts. Tapered nose permits use in cramped areas. Forged and heat treated. Safe, vinyl covered handles. 7-1/2" (191mm) OAL.

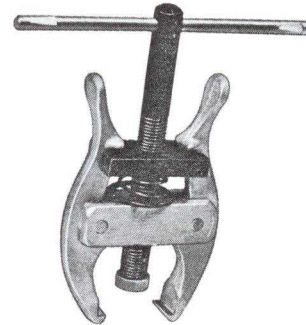
No. 549 TERMINAL CLAMP SPREADER

Designed to spread the battery cable clamp and clean the terminal all in one operation. Forged and heat treated. Safe, vinyl covered handles. 7-1/2" (191mm) OAL.



No. 548 BATTERY CABLE END & BEARING PULLER

Two jaw design removes badly corroded battery cable clamps and small pulleys and bearings. Jaws are designed to grip below the cable clamp to pull battery terminal clamps. Jaws spread to 1-7/16" (37mm) with maximum reach 7/8" (22mm).



No. 551 BATTERY POST & TERMINAL CLAMP BRUSH

This battery post and clamp cleaning brush is designed for fast, efficient cleaning of terminal connections. Plastic case prevents grounding.



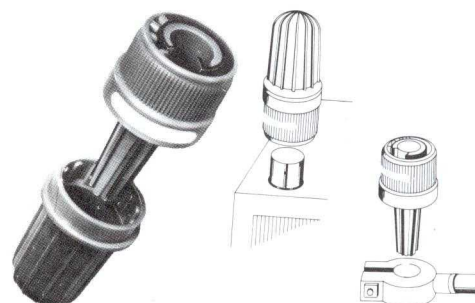
No. 553 HEAVY DUTY BATTERY POST & TERMINAL END BRUSH

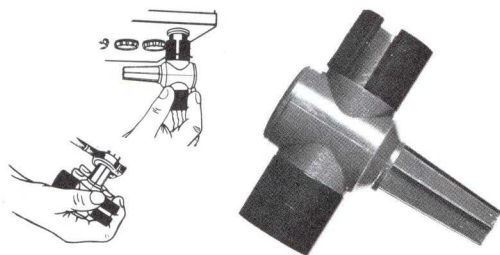
This heavy duty battery post and clamp cleaning brush is designed with tapered bristles to clean posts and terminal ends quickly and safely. Metal case.



No. 554 BATTERY POST & TERMINAL CLAMP REAMER CLEANER

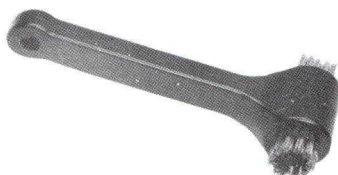
Allows battery posts to be cleaned while battery remains in vehicle. Scraper designed to fit both positive and negative posts. Six blade reamers allow for discharge of metal and eliminate build up on blades.





No. 555 HEAVY DUTY BATTERY POST / CLAMP REAMER

Designed to put both the correct angle and a smoothly-polished finish on terminal clamps and battery posts. Six (6) bladed tapered reamer for terminal clamps. Two (2) spring steel reamers for battery post: small reamer for negative post and large reamer for positive post.



No. 557 SIDE TERMINAL BATTERY BRUSH

Circular brush cleans around threaded insert on cable. Rectangular brush cleans flat surface on the battery where contact is made with the cable. Acid resistant plastic handles.



No. 559 GM SIDE TERMINAL BATTERY WRENCH

Reversible 5/16" ratcheting box wrench speeds removal and replacement of GM side terminal battery bolts. Insulated handle.



No. 735 POCKET BATTERY TESTER

Tests condition of 6-12-24 volt batteries. Number of floating balls quickly indicates battery condition. Plastic pocket carry pouch included.



No. 738 BATTERY HYDROMETER

Glass barrel houses 3-color scale, and specific gravity scale float. Tool has 2 oz. red, rubber bulb and an acid-resisting, 3" (76mm) rubber tip. 12" (305mm) OAL. Boxed.



HEAVY DUTY BATTERY CLAMPS

400 amperes. These extremely rugged vinyl-covered steel clamps are the ultimate for heavy duty service over long periods of time. Color coded, reusable type with bolt-on lugs.

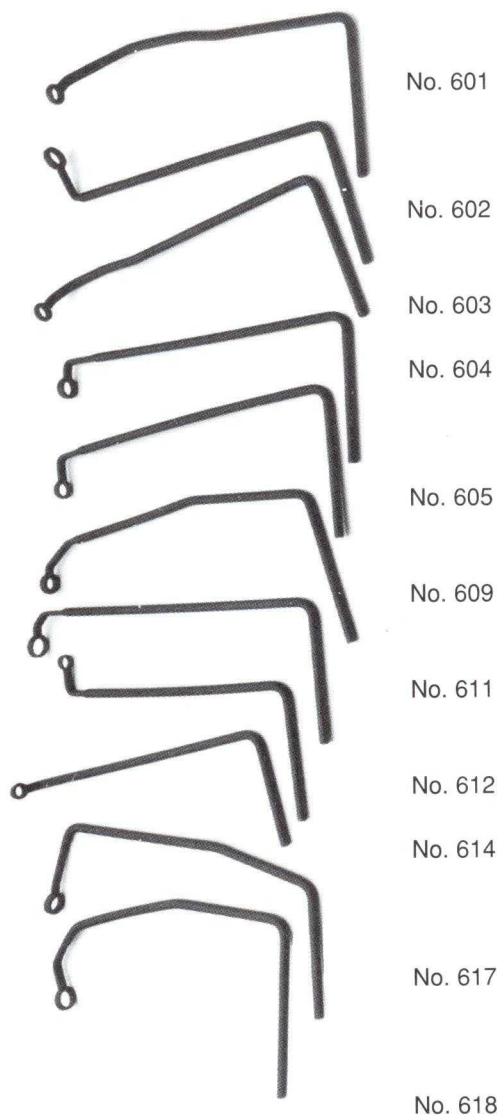
No. 558R Red
No. 558B Black



DISTRIBUTOR WRENCHES

These 12 point wrenches are forged from alloy steel, heat treated and plated. Each wrench is designed to reach the hard to get at distributor hold-down-bolt when adjusting the engine timing. Removes GM E.G.R. valves.

- No. 601** 1/2" wrench, 3-1/2" (89mm) offset, Ford, AMC, IH
- No. 602** 9/16" wrench, 2" (51mm) offset, GM, AMC
- No. 603** 1/2" wrench, 2-1/2" (64mm) offset, Ford, IH
- No. 604** 9/16" wrench, 1-1/2" (38mm) offset, Buicks with front mounted distributor and some Pontiacs and Oldsmobiles
- No. 605** 1/2" wrench, 1-3/4" (44mm) offset, Chrysler, Ford, IH
- No. 609** 13mm, Ford
- No. 611** 17mm 2300 CC engine, 4 cylinder Pinto and Mustang II, and fuel injected Thunderbirds
- No. 612** 10mm, Datsun and Mazda
- No. 614** 12mm, Toyota
- No. 617** 13mm, 12-point drive, GM "J" Car, 1.4 Liter, L-4, A.I.R. Control Valve; Chrysler "K" Car, 2.2 Liter, 4 cyl., 105 CID, 4 cyl.
- No. 618** 15mm, 12-point drive, GM S-10 Truck, 2.8 Liter, V-6; Toyota - most all carburetor models



No. 467 FORD IGNITION WRENCH

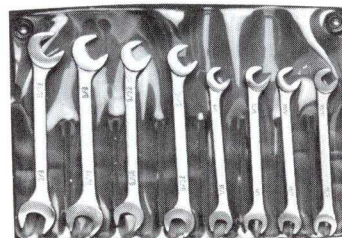
Features T-20 TORX® bit and 7/32" (5.5mm) hex for removing ignition module from the distributor on FORD vehicles. Loosen by hand, or use 1/2" wrench for added torque.

- No. 457** Same as No. 467 but without the T-20 TORX® Bit.



No. 760 METRIC IGNITION WRENCH SET

Eight (8) piece set made of heat treated, chrome plated, alloy steel. Head angles set at 15° and 60°. Contains one (1) each: 4mm, 4.5mm, 5mm, 5.5mm, 6mm, 7mm, 8mm 9mm.





No. 454 DISTRIBUTOR & CARBURETOR ADJUSTING TOOL

The 1/8" (3.2mm) hex bit is used for Delco-Remy external adjustment distributors. Includes non-slip hooded carburetor attachment.

Also Available Individually:

No. 456 Distributor and carburetor adjusting tool.

No. 454-A Hooded carburetor attachment.



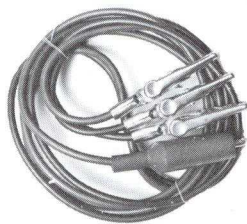
No. 169 DISTRIBUTOR BRUSH

This brush is designed to clean dirt, rust and corrosion from the sockets in distributor caps.



No. 61 REMOTE STARTER SWITCH

Heavy clips with insulated sleeves attach to ground and starter solenoid switch. Thumb activated switch. 6-foot (183cm) heavy insulated wire for long tool life.



No. 238 TEST LEAD KIT

Two (2) 36" (914mm) jumper leads. 16 gauge stranded wire in heavy plastic insulation (two colors). One clip equipped with heavy shock resistant hood.



No. 67 ELECTRIC CIRCUIT TESTER - POWER ON

Test 6-12-24 volt circuits for wire breaks, shorts, fuses, lamps, relays, armatures, etc. with power on. 4" inspection probe set in threaded ferrel and screwed into plastic handle. 36" (914mm) 16-gauge wire with alligator clip.

Replacement Bulbs:

No. 67-01 Two (2) replacement 6-12-24 volt 5-watt bulbs. Skin-packed for easy merchandising.



No. 70 HEAVY DUTY CIRCUIT TESTER - POWER ON

Bulb lights within handle to indicate open, grounded or short circuits on 6-12-24 Volt AC or DC systems. Features heavy duty 4-3/4" (121mm) probe and extra long 60-inch (152cm) cable to reach into any test area. Tension relief spring connects cable to handle for long life. Heavy duty ground clip is enclosed in thick anti-shock boot cover.

Replacement Bulbs:

No. 67-01 Two (2) replacement 6-12-24 volt 5-watt bulbs. Skin-packed for easy merchandising.



No. 68 BATTERY POWERED CONTINUITY TESTER

Test electrical circuits, switches, voltage regulators, coils, fuses, condensers, armature, alternator diodes, radio, T.V. and appliances. Test with power off. Use one (1) AA 1.5 volt battery. Battery not included.

Replacement Bulbs:

No. 68-01 Two (2) bulbs for No. 68. Skin-packed for easy merchandising.



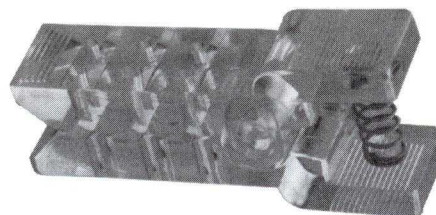
No. 73 COMPUTER / POLARITY CIRCUIT TESTER

Check for open or short circuits on 12 volt automotive computer circuits and all primary automotive electrical circuits. Operates at a range of 3-15 volts and draws less than 21 m.a. at 12 volts. LED bulbs glow green at negative polarity and red at positive polarity.



No. 75 WIRE PIERCING GUIDE - FINGER SAVER

Safely guides the point of any circuit tester into the center of all primary automotive electrical wire. Holds the tester in position allowing the mechanic to work with both hands free. Unaffected by gasoline, oil thinners or other shop chemicals. Stores on ground wire of tester. Use with tools Nos. 67, 68, 70 and 73.





No. 529, 530, 531, 532 NOID LIGHTS

Designed to check electronic fuel injection signals. Flashing light indicates normal pulsing voltage.

- No. 529** Works on GM T.B.I. systems.
- No. 530** Works on Ford T.B.I. systems.
- No. 531** Works on GM P.F.I. systems.
- No. 532** Works on Bosch P.F.I. systems.



No. 533, 534 IAC SIGNAL TEST LIGHTS

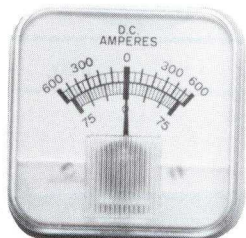
Designed to check electronic control module signal that provides direction to the idle air control motor on GM vehicles with T.B.I. or P.F.I. systems.

- No. 533** Fits GM T.B.I. and P.F.I. systems with square 4-pin connector.
- No. 534** Fits GM #700 T.B.I. and P.F.I. systems with flat 4-pin connector.



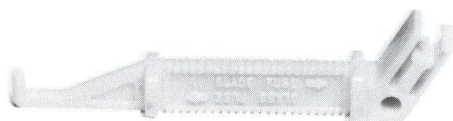
No. 69 SHORT CIRCUIT DETECTOR

This compact, shirt pocket model is designed to locate short circuits in 6 and 12 volt circuits without removing upholstery, body panels, etc. Operates through metal door posts, rocker panels and upholstery. Packaged in plastic case with easy to follow instructions.



No. 71 CURRENT INDICATOR

Measures alternator and starter DC current in 6-12-24 volt systems. Indicates direction of current flow without damage to wires. Alternator scale 0-75 amps. Starter scale 0-600 amps. Place meter over wire to be checked. Crank engine to check draw on starter. Run engine to check alternator output.



No. 123 DUAL FUSE PULLER

Quickly remove or install glass tube or blade-type fuses with this handy tool.



No. 124 GM CODE ACCESS KEY

Easily accesses computer (ECM) trouble codes on GM vehicles. Allows for code read-out using the vehicle's "check engine" or "service engine soon" light. Works on GM - CCC and C-4 systems.



No. 74 AUTO COMPUTER MEMORY UNIT

Maintains the memory of car radios, clocks and computer functions when battery is disconnected. Simply attach a 9-volt battery and plug into cigarette lighter. Will retain settings up to 4 hours. Will not power any lights or other accessories.



No. 101, 102 FUEL TANK SENDER UNIT WRENCH

Use instead of hammer and punch when it is necessary to remove or install fuel tank lock rings.

- No. 101** Fits 1984 thru current Ford vehicles with CFI and EFI fuel systems.
- No. 102** Fits 1974 thru 1984 Ford rear wheel drive vehicles with mechanical fuel pumps.



No. 54 SPARK CATCHER

Spark plug wire extension with accessible metal contact surface on wire for the attachment of timing light or tachometer. Ideal for use on cars where spark plugs are hard to reach. Connects to plug lead wire at distributor or spark plug.



No. 66 SPARK PLUG FIRING INDICATOR

Capacitive type spark plug firing indicator. No need to puncture cable, simply hold on wire and check firing of bulb inside of plastic handle. Not for H.E.I. systems.

- No. 66-01** Two (2) bulbs for No. 66. Skin-packed for easy merchandising.





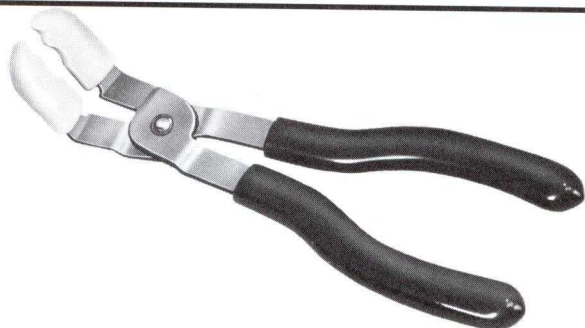
No. 64 HIGH ENERGY IGNITION TESTER

Checks for correct spark in high energy ignition systems. Simply attach spark plug wire to tester and clip tester to engine. Crank engine and check for the presence of spark.



No. 142 SPARK PLUG BOOT PULLER

Designed to provide lifting action to release boot from spark plug without damage to spark plug cable. To be used only with engine turned off.



No. 143 INSULATED BOOT PULLER PLIER

Angled serrated jaws provide easy to reach solid grip. Perfect for safe removal of spark plug wire boots. Nose pieces covered with special nylon tips. Insulated handles.



No. 145 HEAVY DUTY SPARK PLUG BOOT PLIER

This 10" (250mm) long reach spark plug boot plier is designed to remove hard-to-reach spark plug boots. Double insulated to give complete protection against shock. Handle and jaws are double dipped to assure complete coverage of all contact areas. Also for light bulb removal.

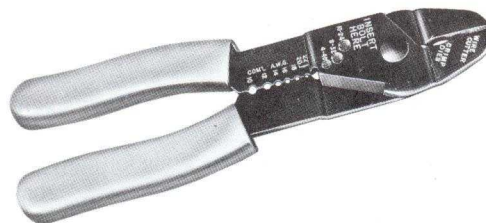


No. 138 GM SPARK PLUG SHIELD REMOVER

Used to remove insulator shields without damaging expensive plug wires or injuring your hands. Works on all GM models from 1984 to present. Simply slide the forked opening under the collar of the shield and gently pry off. Can also be used to remove heater and vacuum hoses and fuel injection nozzles.

No. 1963 WIRE STRIPPER, CRIMPER & BOLT SLICER

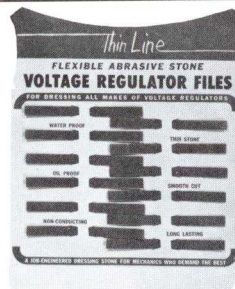
Designed for crimping both insulated and non-insulated terminals. Has end positioned wire cutter, strips 10 to 20 gauge wire and slices six (6) bolt sizes, including: 10 - 32, 10 - 24, 8 - 32, 6 - 32, 5 - 40 and 4 - 40.



No. 608, 693 IGNITION POINT FILES

Quality double cut ignition files guaranteed to file tungsten and platinum contact points. Made of super hard, high quality steel with Rockwell hardness of 65.

- No. 608** Packaged on self selling display card of twelve (12).
No. 693 Skin-packed two (2) files per card.



No. 694 TWISTONES

Waterproof, oil proof, non-conducting flexible abrasive dressing stones. Includes one (1) 80 Grit and one (1) 120 Grit per card.



No. 137 EXTENDED SPARK PLUG SOCKET

Designed to remove hard to reach recessed spark plugs. Knurled barrel provides sure grip when hand turning. 5/8" spark plug socket, 3/8" drive, 4-1/2" (114mm) OAL.



SPARK PLUG HOLE THREAD CHASERS

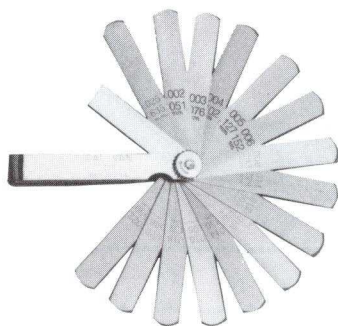
These thread chasers clean threads of dirt, carbon build-up and metal particles. Hexagonal section with neoprene band permits use of any standard deep socket. Ends shaped for easy starting.

- No. 136** 14mm
 Features 5/8" hex and 3/8" square drive. Can be used with No. 137 Extended Spark Plug Socket.
- No. 144** 14mm & 18mm
 Use with any standard 13/16" deep socket.
- No. 146** 10mm & 14mm
 Use with any standard 13/16" deep socket.



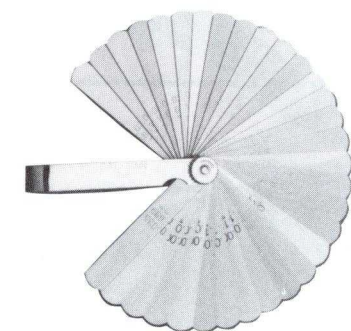
FEELER GAUGES

Cal-Van's complete assortment of feeler gauges includes the most popular blade sizes. Precision made from the finest grade steel available, these gauges are scientifically hardened and tempered to withstand long wear. Each blade is tested to insure exact thickness required by the most rigid specifications. All thickness gauges are equipped with knurled lock-nuts which release the blades instantly for easy selection of desired blade. Blades measure 1/2"W x 3-5/16"L and are permanently etched with both standard and metric sizes.



No. 219 FEELER GAUGE - 9 BLADES, RULER

Contains steel ruler and nine (9) straight steel blades of the following thicknesses: .002, .003, .004, .006, .008, .012, .013, .020, .025 (.051 to .635 mm).



No. 217 FEELER GAUGE - 15 BLADES

Contains steel ruler and 15 straight steel blades of the following thicknesses: .002, .003, .004, .005, .006, .008, .011, .012, .013, .014, .016, .018, .020, .022, .025 (.051 to .635 mm).



No. 230 UNIVERSAL MASTER FEELER GAUGE - 26 BLADES

Contains twenty-six (26) steel blades of the following thicknesses: .0015, .002, .0025, .003, .004, .005, .006, .007, .008, .009, .010, .011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .021, .022, .023, .024, .025 (.038 to .635 mm).

No. 218 MASTER FEELER GAUGE - 32 BLADES

This 32 straight blade set contains one (1) .010 brass blade and 31 steel blades of the following thicknesses: .0015, .002, .0025, .003, .004, .005, .006, .007, .008, .009, .010, .011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .021, .022, .023, .024, .025, .026, .028, .030, .032, .035 (.038 to .889 mm).

No. 220 COMBINATION TUNE-UP GAUGE - 18 BLADES & 6 WIRES

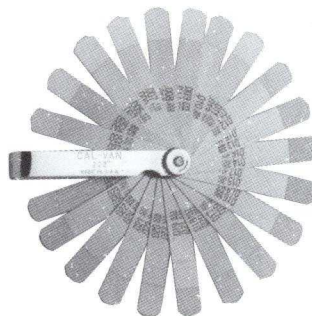
Contains twelve (12) straight steel blades of the following thicknesses: .010, .012, .015, .016, .017, .018, .019, .020, .022, .024, .025, .026 (.010 to .026 mm).

Contains six (6) brass blades of the following thicknesses: .006, .008, .010, .012, .014, .016 (.254 to .660 mm).

Contains six (6) wire gauges .025, .030, .034, .035, .040, .045 (.635 to 1.143 mm).

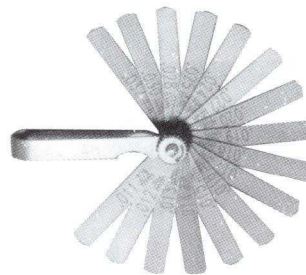
No. 222 GO - NO - GO MASTER FEELER GAUGE - 22 BLADES

Ideal for adjusting tappets. Contains 22 precision ground blades of the following thicknesses: .004/.006, .005/.007, .006/.008, .007/.009, .008/.010, .009/.011, .010/.012, .011/.013, .012/.014, .013/.015, .014/.016, .015/.017, .016/.018, .017/.019, .018/.020, .019/.021, .020/.022, .021/.023, .022/.024, .023/.025, .024/.026, .025/.027 (.102 to .686 mm).



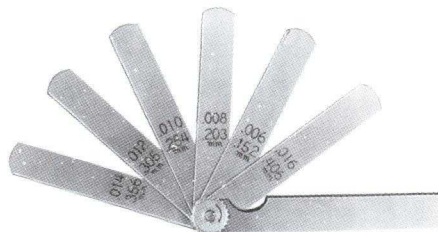
No. 288 IGNITION GAUGE - 16 BLADES

Contains 16 blades of the following thicknesses: .011, .012, .013, .014, .015, .016, .017, .018, .019, .020, .022, .024, .025, .028, .030, .032 (.279 to .813 mm).



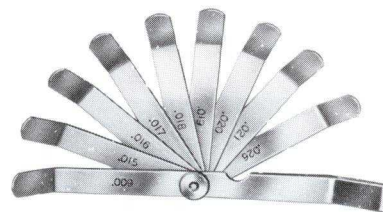
No. 289 NON-MAGNETIC BRASS IGNITION GAUGE - 6 BLADES

Contains six (6) brass blades of the following thicknesses: .006, .008, .010, .012, .014, .016 (.152 to .406 mm).



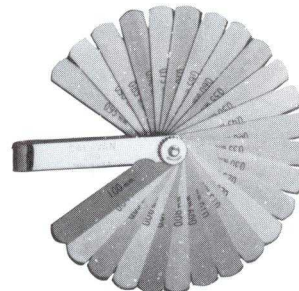
No. 233 OVERHEAD VALVE GAUGE - 9 BLADES

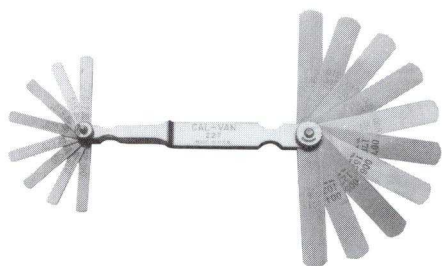
Designed with a 45° offset for checking valve clearances on most engines. Contains nine (9) blades of the following thicknesses: .009, .015, .016, .017, .018, .019, .020, .021, .026 (.229 to .660mm).



No. 290 METRIC FEELER GAUGE - 25 BLADES

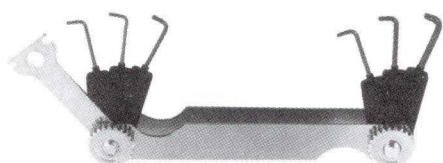
Contains 25 tapered steel blades (3") of the following thicknesses: .04, .05, .06, .07, .08, .09, .10, .15, .20, .25, .30, .35, .40, .45, .50, .55, .60, .65, .70, .75, .80, .85, .90, .95, 1.00 mm.





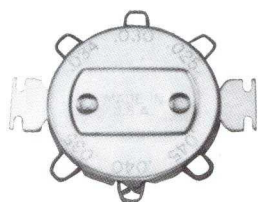
No. 227 TAPPET & IGNITION GAUGE - 18 BLADES

Contains ten (10) tappet blades 3" x 1/2" of the following thicknesses: .004, .005, .006, .007, .008, .009, .010, .012, .013, .015 (.102 to .381 mm) and eight (8) ignition blades 1-3/4" x 1/4" with the following sizes: .012, .015, .018, .020, .022, .025, .030, .040 (.305 to 1.02 mm).



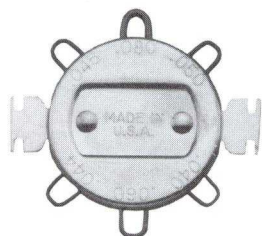
No. 234 WIRE SPARK PLUG GAUGE - 6 WIRES

This folding gauge is required to gap the "high energy" ignition systems. Six (6) wire sizes both in standard and metric equivalents: .035, .044, .045, .050, .060, .080 (1.22 to 2.03 mm) plus an electrode bending tool.



No. 223 WIRE SPARK PLUG GAUGE - 6 WIRES

Compact, round style gauge includes the following sizes: .025, .030, .034, .035, .040, .045 (.64 to 1.14mm) with point bender and adjuster. Gauge wireholder stamped in both standard and metric sizes.



No. 239 WIRE SPARK PLUG GAUGE - 6 WIRES

This popular round pocket size gauge includes gauge sizes needed for adjusting spark plugs in high energy ignition systems. Six (6) wire sizes in standard and metric sizes including: .040, .044, .045, .050, .060, .080 (1.02 to 2.03 mm), plus electrode bending adjuster.



No. 823 ROUND "KEY CHAIN" SPARK PLUG GAUGE

This popular solid steel spark plug gauge is designed with a tapered edge for gauging spark plugs and with a flanged hole to adjust the side wire of plugs without pressuring center electrode. Marked in standard and metric sizes. Used to gap all plugs from .020 to .1000 (0.50 to 2.53 mm).



No. 824 "KEY CHAIN" PLUG GAPPER COUNTER PACK

This popular No. 823 spark plug gap gauge is available in 100-piece retail pack. Packed in a handy, pre-labeled plastic tub and lid for impulse counter sales.

Carburetor & Distributor Adjuster • Throttle Adjuster • Distributor Adjusting Tool • Carburetor Adjusting Tools • Double-D Idle Mixture Adjusting Tool • Universal Carburetor Gauge • T.B.I. Air Valve Tool • Mityvac® Vacuum Test & Bleed Kit • Mityvac® Replacement Kit • Fuel Injection Kits • Engine Compression Tester • Engine Compression Tester Kit • Vacuum & Fuel Pump Tester • Automatic Transmission & Engine Oil Pressure Tester • Power Steering Tester • Vacuum Switch Socket • Small Oil Pressure Sending Unit Switch Socket • Oxygen Sensor Socket • VW Drain Plug Socket • Vacuum Hose Plug and Cap Kit • Line Quick Disconnect Tool Set • Rear Main Bearing Seal Extractor & Installer • Upper Rear Main Seal Installation Kit • Freeze Plug - Soft Plug Installer • "Air Holds" for Overhead Valves • Flexible Valve Air Hold • Hydraulic Valve Lifter Puller • Valve Grinder • Vacuum Cup Valve Grinder • Valve Lapping Compound • Harmonic Balancer Installer • Timing Gear Puller • Rocker Arm Oil Deflectors • Pulley Puller • Power Steering Pump Pulley Installer • Gasket & Hollow Punch Set • Engine Chain Lift • Flywheel Turner • Mechanic's Stethoscope • Oil Pump Primer • Ford Belt Tensioner • Ford Fan Clutch Tool Set • Chrysler Belt Tensioner • Camshaft Sprocket Tool • Flex Hones • Engine Cylinder Hone • Straight Line Puller • Overhead Valve Spring Compressor • Valve Lifters • Ridge Reamer - Ring Groove Cleaner • Deluxe Piston Groove Cleaner • Piston Ring Expander • Wrinkle Band Ring Compressor • Piston Ring Compressor • Cup Type Oil Filter Wrenches • Filter Wrenches • "All Size" Filter Wrench • Oil Filter Pliers • Chain Oil Filter Wrench • Leak-Check • Hose & PVC Pipe cutter • Hose Pinch Off Pliers • Hose Clamp Plier • Economy Pocket Radiator Tester • Freezometer • Radiator Hose Remover • Carburetor & distributor Adjuster • Throttle Adjuster • Distributor Adjusting Tool • Carburetor Adjusting Tools • Double-D Idle Mixture Adjusting Tool • Universal Carburetor Gauge • T.B.I. Air Valve Tool • Mityvac® Vacuum Test & Bleed Kit • Mityvac® Replacement Kit • Fuel Injection Kits • Engine Compression Tester • Engine Compression Tester Kit • Vacuum & Fuel Pump Tester • Automatic Transmission & Engine Oil Pressure Tester • Power Steering Tester • Vacuum Switch Socket • Small Oil Pressure Sending Unit Switch Socket • Oxygen Sensor Socket • VW Drain Plug Socket • Vacuum Hose Plug and Cap Kit • Line Quick Disconnect Tool Set • Rear Main Bearing Seal Extractor & Installer • Upper Rear Main Seal Installation Kit • Freeze Plug - Soft Plug Installer • "Air Holds" for Overhead Valves • Flexible Valve Air Hold • Hydraulic Valve Lifter Puller • Valve Grinder • Vacuum Cup Valve Grinder • Valve Lapping Compound • Harmonic Balancer Installer • Timing Gear Puller • Rocker Arm Oil Deflectors • Pulley Puller • Power Steering Pump Pulley Installer • Gasket & Hollow Punch Set • Engine Chain Lift • Flywheel Turner •

WENZ



No. 447 CARBURETOR & DISTRIBUTOR ADJUSTER

The 20" (508mm) long shaft with 3" (76mm) flexible portion allows tool to bend into otherwise inaccessible locations. Finger tip adjustment made by turning drive knob on end of tool. Drive 1/4". Includes the following four (4) adapters:

- No. 443** Hooded Carburetor Attachment
- No. 444** Distributor Attachment with 1/8" Hex
- No. 445** Screw Starter Attachment
- No. 446** Magnet Attachment

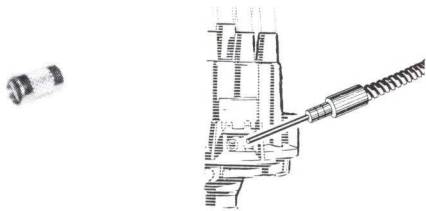
Also Available Individually:

- No. 442** Flexible Shaft Tool Only



No. 454 DISTRIBUTOR ADJUSTING TOOL

The 1/8" (3.2mm) hex bit for use with Delco-Remy external adjustment distributors. The non-slip, hooded screwdriver attachment is included to adjust carburetors. Constructed of a "non-kink" flexible steel shaft, shock resistant plastic handle and hardened steel hex bit.



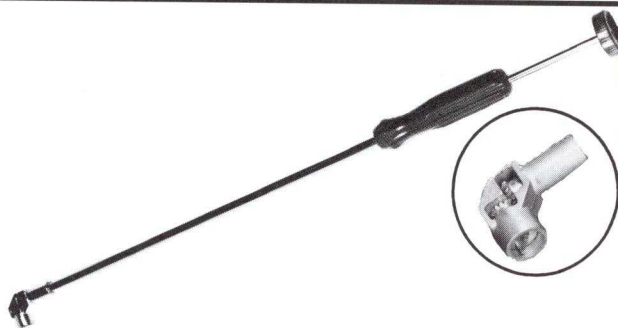
Also Available Individually:

- No. 454-A** Hooded Screwdriver Attachment
- No. 456** Distributor Adjusting Tool Only



No. 466 CARBURETOR ADJUSTER

This piloted screwdriver, set at right angle with positive gear drive, eliminates back lash error when making carburetor adjustments. 18" (457mm) OAL.



No. 461 THROTTLE ADJUSTER

Adjusts RPM without disturbing original carburetor setting. Allows user to maintain setting while doing tune-up, timing or air conditioning work. Effective on fuel injected engines.



No. 462 CARBURETOR ADJUSTER

This 2.5mm hex tool is designed to adjust Throttle Position Sensor on all 1979 and up GM vehicles with E4M series carburetors featuring Computer Command Control (CCC) systems. Flexible shaft allows for access into tight areas. Corrosion resistant.



No. 463, 464, 465 CARBURETOR ADJUSTING TOOLS

Flexible shaft allows for easy access into tight areas when adjusting carburetor.

- No. 463** Fits 3/32" (2.4mm) hex idle and mixture adjusting screws from 1978 on Chrysler 1.7L and 2.2L engines.
- No. 464** Fits 4.5mm hex adjusting screws on 1978 thru 1979 GM cars.
- No. 465** Fits 1/4" hex adjusting screw on GM cars prior to 1978.



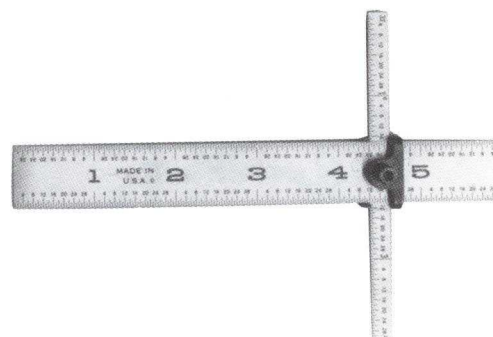
No. 854 DOUBLE-D IDLE MIXTURE ADJUSTING TOOL

Designed for vehicles with Varijet carburetors which have an idle mixture screw head with a "double-D" configuration. The drive end of this tool is designed to fit the recessed screw head. Flexible shaft. Also works on Quadajet and Dualjet carburetors with "double-D" idle mixture screws. "Double-D" opening measures 4.2mm.



No. 459 UNIVERSAL CARBURETOR GAUGE

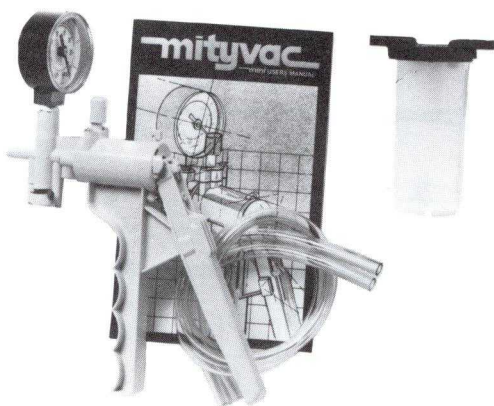
All carburetors require three (3) exact adjustments: float level, float drop and pump rod. This tool handles all of them. Made of stainless steel with scales engraved in both standard and metric to provide full coverage when making carburetor adjustments. Clevis design provides full visibility of both scales which is essential when setting gauge to exact specifications. Packaged in plastic pouch.





No. 449 T.B.I. AIR VALVE TOOL

Removes and installs Idle Air Control Valves on GM-Throttle Body Injection Systems. Features 32mm crow's foot design which will not damage sensitive valves. 8-point star design for use with 3/8" ratchet.



No. 1010 MITYVAC® VACUUM TEST & BLEED KIT

This automotive tune-up and brake bleeding kit performs both one-man brake bleeding and many precision automotive system tests, including: air conditioning, emission control, computer and cruise control. Includes complete bi-lingual (English & Spanish) User's Manual explaining tests and bleeding procedures, including A.B.S. brake systems.

Limited Warranty by original manufacturer.

-Mityvac® pump is warranted to be free of all defects in material and workmanship for five full years from date of original purchase. Enclosed warranty card must be returned to tool manufacturer within 30 days of purchase.

No. 1011 MITYVAC® REPLACEMENT KIT

Includes parts to maintain No. 1010 Vacuum Pump in ready-to-use working order.



No. 1007 GM MULTI-PORT FUEL INJECTION TESTER

Designed for all GM domestic cars, light trucks, vans and sport utility vehicles with multi-port fuel injection.



No. 1008 CHRYSLER TBI & MULTI-PORT FUEL INJECTION TESTER

Designed for all domestic Chrysler cars, light trucks, vans and sport utility vehicles with TBI and multi-port fuel injection systems.

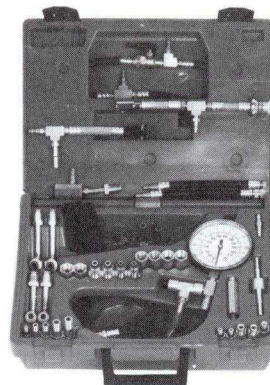
No. 1009 FORD MULTI-PORT & TBI FUEL INJECTION TESTER

Designed for all domestic Ford cars, light trucks, vans and sport utility vehicles with multi-port and TBI fuel injection systems.



No. 1006 MASTER FUEL INJECTION KIT

Designed for the professional technician. This kit works on ALL fuel injection systems. Features special 3-1/2" (89mm) gauge with expanded 1 lb. incremental dual dial for accurate and easy reading, with a 100 PSI/700kPa scale. 4-foot (122cm) gauge hose has quick coupler connection at end. Gauge is designed with hook to hang up and free hands while working. Relief valve and 6-foot tubing relieves pressure and fuel safely, and checks for sufficient fuel flow. Stores neatly in durable, plastic carrying case.



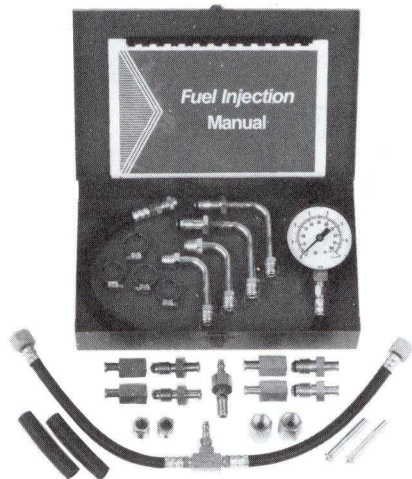
No. 1004 BOSCH - C.I.S. FUEL INJECTION KIT

This advanced professional kit includes a quick coupler and quick coupler plugs making it faster, safer and more efficient to use than the No. 1000 model. Features dual scale 2-1/2" (65mm) gauge with 100 psi/7kg/cm2 dial. Gauge is designed with hook to hang up and free hands while working. Includes 8 adapters and 16" gauge hose. Works on all early and late Bosch - CIS systems, including: Prizm & Storm, 1990 and up; Toyota with L Jetronic, 1984 - 1989; Saab with 16 valve engine. Also works on same systems as No. 1000 kit. Includes metal storage box and instruction booklet.



No. 1000 EARLY BOSCH - C.I.S. FUEL INJECTION KIT

This kit is designed to work on early European Bosch - C.I.S. systems, including: Saab & Audi Fox, 100, 4000 from 1975; BMW from 1977; VW & Mercedes Benz V6 & V8 from 1976; Porsche from 1973; Volvo from 1974. Includes adapters, plastic storage pouch and instructions.

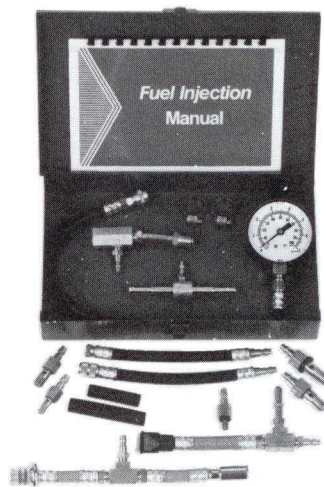


No. 1003 GM-T.B.I. FUEL INJECTION KIT

This advanced professional kit works on all early and late GM - TBI systems. (Other TBI systems should use No. 1004.) Tests vehicles with single and dual injectors. Includes a quick coupler and quick coupler plugs making it faster, safer and more efficient to use than the No. 1001 model. Features dual scale 2-1/2" (65mm) gauge with 100 psi/7kg/cm² dial. Gauge is designed with hook to hang up and free hands while working. Includes 6 adapters and 16" gauge hose. Works on Acura 1986 and up; Colt, Summit, Vista, Wagon and Raider, 1990 and up; Daihatsu 1989 and up; Honda 1987 and up; Hyundai 1989 and up; Mazda 1986 and up; Mitsubishi Van and Wagon 1987 - 1990; Sterling 1986 and up; Nova 1988; and GM-T.B.I. vehicles with banjo bolts.

No. 1001 EARLY GM -T.B.I. FUEL INJECTION KIT

This kit is designed to work on all early GM-T.B.I. fuel injection systems. Features dual scale 2-1/2" (65mm) gauge with 100 psi/7kg/cm² dial. Includes adapters, 4-ft hose, plastic storage pouch and instructions.



No. 1005 ALL SYSTEMS FUEL INJECTION KIT (except Bosch-C.I.S. & GM-T.B.I.)

This advanced kit works on all early and late fuel injection systems including Amercian Motors, Bosch AFC-MPC-Digijet/Digifant (except C.I.S.), Chrysler, Ford, GM (except T.B.I.), Japanese imports, and all others using Bendix-type fuel injection, or a Schrader-type valve including the small Schrader valve found on both Ford TBI and Ford multi-port systems. Includes a quick coupler and quick coupler plugs making it faster, safer and more efficient to use than the No. 1002 model. Features 2-1/2" (65mm) dual scale gauge with 100 psi/7kg/cm² dial. Gauge is designed with hook to hang up and free hands while working. Includes 8 adapters and 16" gauge hose. Works on: Ford large cars, high pressure, 1980 and up; Ford small cars, low pressure, 1985 and up; Spectrum, 1982 - 1984; All Prizm, Storm, Isuzu; Toyota with Bosch L Jetronic; Acura, Metro, Tracker 1989 and up; Some Honda, Hyundai; All Suzuki.

No. 1002 EARLY ALL SYSTEM FUEL INJECTION KIT -except Bosch-C.I.S. & GM-T.B.I.

This kit is designed to work on all early fuel injection systems, including those with Schrader type test valves. Does not work on Bosch-CIS or GM-T.B.I. systems. Features 2-1/2" (65mm) dual scale gauge with 100 psi/7kg/cm² dial. Includes adapters, 4-ft. hose, plastic storage pouch and instructions.



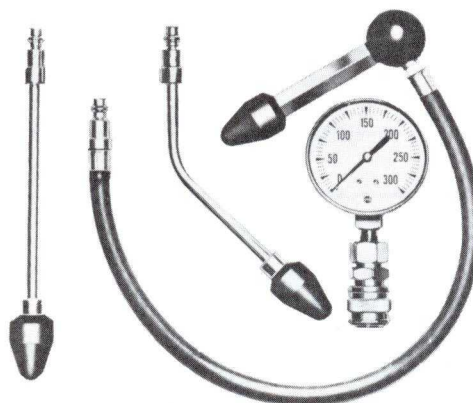
No. 55 ENGINE COMPRESSION TESTER

Indicates maximum compression of each cylinder. Large 2-1/2" (64mm) diameter dial graduated 0-300 lb/in² (0-21 kg/cm²). Unbreakable lens. Offset gauge stem has rubber cone type universal fitting that seats in all spark plug holes.



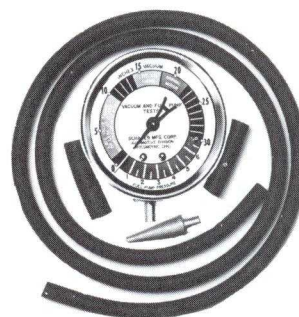
No. 56 ENGINE COMPRESSION TESTER KIT

This compression tester fits all cars and has quick release air tight coupling for changing adapters. Gauge has unbreakable dial, graduated 0-300 lb/in² (0-20 kg/cm²). Master stem has 18" (457mm) long heavy duty flexible hose with ball grip. Two (2) additional adapters included: 7-1/2" (191mm) straight stem and 8" (203mm), 45° offset stem. Shipped in storage box with instructions.



No. 76 VACUUM & FUEL PUMP TESTER

Check for leaky valves, timing, fuel pump vacuum and pressure, gas line leakage, etc. Large dial indicates 2 - 26 in / 0 - 11 lb (100 - 600mm / .10 - .70 kg). Gauge has easy-to-read graduation and is equipped with 4-ft (1219mm) of high quality rubber hose with taper vacuum fitting. Complete instruction manual included.



No. 806 COMPRESSION TESTER / FLEX ADAPTER

This compression tester has 6 combinations for testing. Ideal for working in difficult or deeply recessed spark plug holes. Adapters have straight threads which can be quickly hand tightened, eliminating the need for extra tools. Features 0-300 PSI / 0-21 bar chrome gauge assembly with pressure relief valve for retesting the same cylinder or testing next cylinder. Includes 4" (102mm) solid extension and 7.5" (190mm) flex extension.





No. 857 GM DIESEL COMPRESSION TESTER

Designed for use on GM diesel engines. Quick release disconnect fittings on a long flexible hose. Side release valve and large 2-1/2" (64mm) gauge. 0 to 1000 psi, 0 - 70 Kg/cm². Includes No. 857-1 GM Adapter.

Additional Adapters Available:

- No. 858** VW Diesel Adapter
- No. 859** Mercedes Diesel Adapter
- No. 860** GM Diesel Adapter, 6.2L

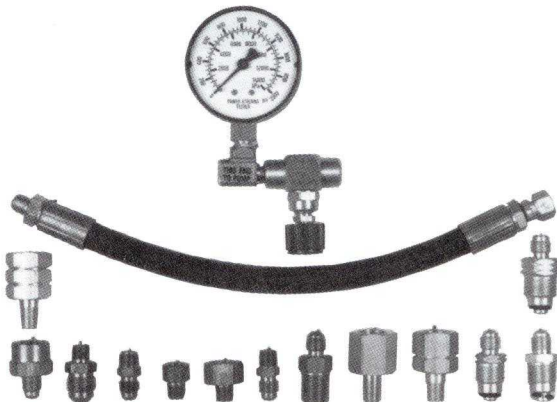


No. 816 UNIVERSAL COMPRESSION TESTER W/ QUICK COUPLER

Large 2-1/2" (64mm) gauge face shows 0-300 psi, 0 - 21 Kg/cm², with quick release valve. Long hose is 13-1/2" (343mm). Extension hose is 8" (203mm) and has quick release coupler on one end and 14 / 18mm short adapter on the other end. Also contains 14mm adapter for long reach plugs. Extra 14 / 18mm adapter included for use with long hose.

Additional Adapters Available:

- No. 817** 10mm Adapter
- No. 818** 12mm Adapter



No. 835 POWER STEERING TESTER

Designed to test for defects in power steering pumps, gears and lines. Complete with 13 adapters to fit most vehicles. Heavy-duty gauge with scale from 0-2000 psi, 0 - 140 kpa. Instructions and specifications included.

Available Adapter Kit for No. 835:

- No. 845** Adapter Kit for GM, Chrysler, Ford, V.W. and Saab
Includes three (3) additional fittings: two (2) metric and one (1) standard.

No. 836 AUTOMATIC TRANSMISSION & ENGINE OIL PRESSURE TESTER

This unit designed to check oil pressure in automatic transmissions and engines in domestic cars, trucks and most imports. Easy-to-read gauge with scale from 0-300 psi, 0 - 21 Kg/cm². Complete with 6-ft. (1829mm) oil proof hose, adapter fittings, and instructions.

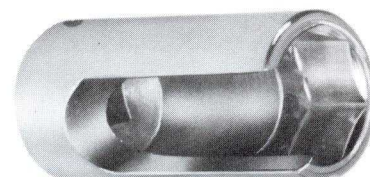
Available Adapter Kit for No. 836:

No. 846 This adapter kit includes 5 additional fittings to test engine oil pressure on Chrysler, European and Japanese models. Contains: One (1) 10-1mm taper fitting; one (1) 1/8"- 28 BSPT taper fitting; two (2) 8 - 1mm taper fitting; one (1) 1/8" NPT brass right angle fitting.



No. 515 VACUUM SWITCH SOCKET

Specially designed for quick, easy removal and installation of vacuum switches currently used in Ford, GM, Chrysler and imports. Cut away portion of socket accommodates the hose connection on vacuum switch. Made of durable alloy steel, 3/8" square drive, 2-1/2" (64mm) long, 7/8" (22mm) socket opening. Not for impact use.



No. 516 SMALL OIL PRESSURE SENDING UNIT SWITCH SOCKET

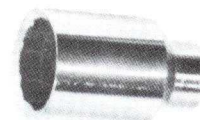
Specially designed deep socket easily removes and installs the 1" hexagon-shaped oil pressure sending unit switch used on small cars. Socket made of durable alloy steel with 3/8" square drive, 2" (51mm) long, 1" (25mm) socket opening. Not for impact use.



No. 517, 519 OIL PRESSURE SENDING UNIT SOCKET

Designed for quick, easy removal and installation of oil pressure sending units. Made of alloy steel. Not for impact use.

No. 517 3/8" drive, 1-3/4" (45mm) long. 1-1/6" (27mm) opening.
No. 519 1/2" drive, 4-1/4" (45mm) long. 1-1/6" opening, 7/8" hex. Works on late model vehicles.





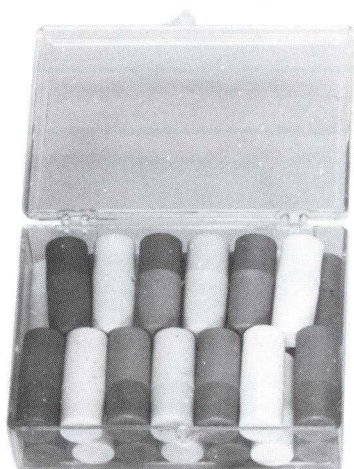
No. 843 OXYGEN SENSOR SOCKET

Removes and installs 7/8" oxygen sensors on computerized engine controlled vehicles with a 1/2" drive ratchet. Simply disconnect sensor wire harness and slide socket over sensor keeping wire in the slot. 3-1/2" long. Not for impact use.



No. 120 VW DRAIN PLUG SOCKET

17mm x 3/8" square drive for removing and installing Volkswagen transmission drain plugs. Recessed for full wrenching engagement over magnet. 3/8" female square drive and 17mm male hex body. Alloy steel, heat-treated and zinc plated. Socket is 1-1/4" (32mm) long. Not for impact use.



No. 51 VACUUM HOSE PLUG AND CAP KIT

Use this 28 piece, color-coded kit to mark vacuum hoses and other lines when disconnecting hoses to insure proper reassembly. Contains 4 sizes: 1/8" (3mm), 3/16" (5mm), 1/4" (6mm) and 5/16" (8mm). Seven different colors in each size.



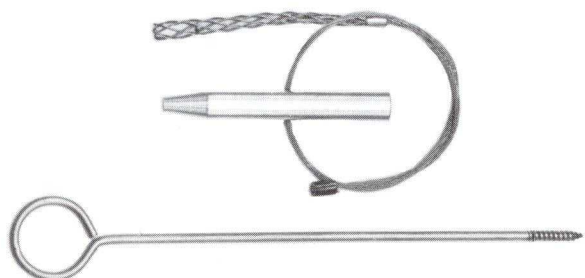
No. 684 LINE QUICK DISCONNECT TOOL SET

For spring lock coupling / snap lock air conditioning lines, late model fuel lines and automatic transmission cooler lines found on GM, Ford and Chrysler vehicles. Six popular sizes fit the following tubing O.D. sizes: 5/16" (8mm), 3/8" (9mm), 1/2" (13mm), 5/8" (16mm), 3/4" (19mm), 7/8" (22mm). Also works on Ford transmission and radiator cooler lines. Color coded and stamped with tool size for quick identification.



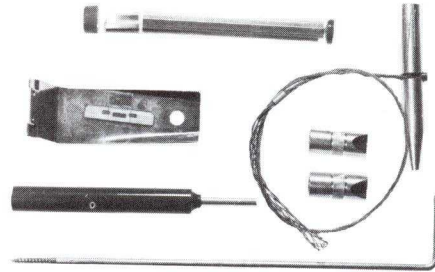
No. 6 REAR MAIN BEARING SEAL EXTRACTOR & INSTALLER

Allows for removal and installation of a new seal without removing engine or crankshaft.



No. 7 UPPER REAR MAIN SEAL INSTALLATION KIT

This handy kit eliminates the need to remove engine or crankshaft when replacing either wick or neoprene upper rear main bearing oil seals. Comes complete with worn seal extractor, stainless steel "Chinese Finger" seal installer, two sizes of compressing guide funnels, packing punch, trimming knife, curve chaser die and self aligning flat steel chaser.



No. 581 FREEZE PLUG - SOFT PLUG INSTALLER

Re-set expansion plugs without removing motor mounts or cutting fire walls. Set includes four (4) adapters, covering seven (7) sizes: 7/8" (22mm), 1-1/4" (32mm), 1-3/8" (35mm), 1-5/8" (41mm), 1-3/4" (44mm), 2" (51mm), 2-1/4" (57mm). Spring loaded swivel keeps driver positioned at desired angle.



No. 468 "AIR HOLDS" FOR OVERHEAD VALVES

Here is a long needed tool to make overhead valve repairs without removing the cylinder head. Set of 14mm and 18mm with 1/4" pipe thread for any quick coupler. It lets air do the work.



No. 469 FLEXIBLE VALVE AIR HOLD

Allows for replacement of valve seals and broken or weak valve springs on OHV and OHC engines without removing the head by applying air to cylinder through spark plug hole. Flexible design allows for easy access to spark plug holes. One end of tool fits 14mm and 18mm threads of spark plug hole. Other end of tool is a 1/4" female pipe threaded for coupler plug attachment. 13" (330mm) OAL.



No. 32 HYDRAULIC VALVE LIFTER PULLER

This tool is specially designed to be inserted through the push rod holes and expanded inside the lifter in order to pull lifter out of the bore. Complete instructions included. 11" (279mm) OAL.





No. 766 VALVE GRINDER

Oscillating action gives short, smooth, and quick forward and backward movements which constantly advance the valve to new positions and insures perfect grinding. Includes universal bit, long and short adapter, large and small suction cups. Use with Cal-Van No. 768 Valve Grinding Compound.



No. 561 VACUUM CUP VALVE GRINDER

For hand grinding flat head, unslotted valves. Synthetic rubber vacuum cups are resistant to oil, grease, gasoline and are replaceable. Plastic handle. Cup diameters 7/8" (22mm) and 1-5/16" (33mm).



No. 767 SMALL ENGINE VACUUM CUP VALVE GRINDER

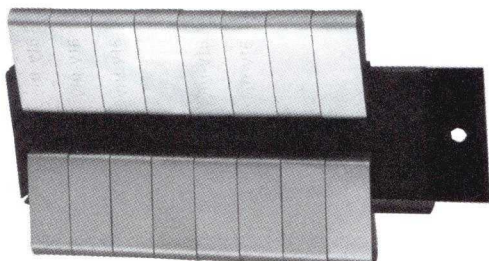
This single end valve grinder has 3/4" (19mm) diameter suction cup for use on unslotted valves. Hardwood handle. Neoprene cup is resistant to oil, gasoline and grease. Use with Cal-Van No. 768 Valve Grinding Compound.



No. 768 VALVE LAPPING COMPOUND - Coarse & Fine

For cutting, smoothing and finishing metal surfaces. Includes one (1) each of the following:

"Coarse" for roughing, 2 oz. of silicon carbide E-120 Grit.
"Fine" for finishing, 1 oz. of silicon carbide E-280 Grit.

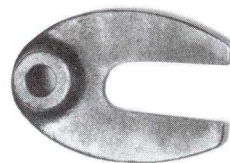


No. 18 ROCKER ARM OIL DEFLECTORS

Deflects oil from the rocker arm to the valve chamber. Sold in sets of 16 so both banks in V8 valves may be adjusted simultaneously. Includes a handy metal panel for convenient storage.

No. 593 OVERHEAD VALVE SPRING COMPRESSOR

Allows for easy removal and installation of valve springs and valve oil guides, with 3/8" (9mm) rocker arm studs. Cylinder heads DO NOT have to be removed because of the low profile and close clearance of this cast steel tool. Length 2-3/4" (44mm). Use with No. 468 or No. 469 Air Holds for Overhead Valve jobs.



No. 579 VALVE SPRING COMPRESSOR

Removes valve springs in GM 8 cylinder engines and others with stud type rocker arms. No need to remove heads—simply remove rocker arm. Place tool over stud and secure with nut. Pull on handle to compress spring. Use with Cal-Van No. 468 or No. 469 "air-holds" to prevent valves from opening. CAUTION: Use safety goggles.



No. 571 OVERHEAD VALVE SPRING COMPRESSOR

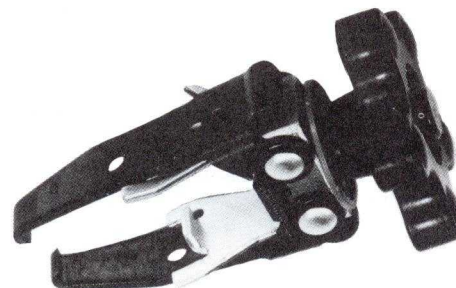
Remove valve spring without removing cylinder heads. Hex head on center screw enables mechanic to use socket with ratchet wrench or "T" handle for areas with close clearance. Jaws are offset to grip springs in parallel compression position and long enough for use on high performance engines.



No. 573 DELUXE OVERHEAD VALVE SPRING COMPRESSOR

This heavy duty tool removes valve springs on most cars with overhead valves. Shorter overall length allows for access in confined areas. Can be operated either by hand, 5/8" open end wrench or 5/8" socket and ratchet.

Always wear safety goggles.



No. 578 "SHORTY" VALVE LIFTER

For safe, sure and fast spring compression on all L-head in-line engines using straight stem valves. Top jaws are adjustable for various spring sizes. Unique engineered action keeps the end of the spring level at all times. Jaw capacity is 5/16" to 2-9/16" (8 - 65mm). Lifting capacity is 2-3/8" (60mm). 9-1/4" (235mm) OAL.





No. 575 UNIVERSAL VALVE LIFTER

For L-head and valve-in-head automotive, truck, tractor, bus and marine engines. Easily adjusted with a pin operated screw to valve spring length. Powerful leverage with cam locking handle. Controlled on hand release of spring gives the operator safe use of the other hand to hold the locks on the valve stem. The No. 579 Valve Key Replacer works with it on L-head valves. Height 10-1/2" (267mm), Width 9-3/4" (248mm). Capacity 1" to 2-1/2" (25 - 63mm) diameter valve springs. Includes the following three (3) pairs of spring holding jaws:

No. 575-1 Small Straight Jaw Set

Capacity 7/8" (22mm) dia., pair

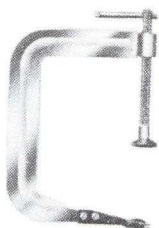
No. 575-2 Medium Offset Jaw Set

Capacity 1" to 2" (25 - 51mm) dia., pair

No. 575-3 Large Straight Jaw Set

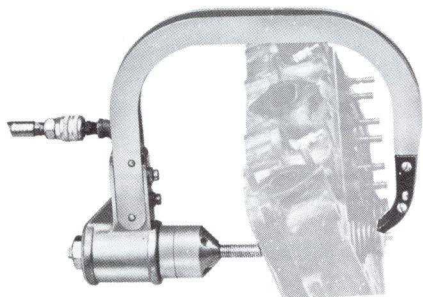
Capacity 1-1/2" to 2-1/2" (38 - 63mm) dia., pair

No. 577 SMALL ENGINE VALVE LIFTER



Provides plenty of clearance for removal and replacement of valve locks on small air or water cooled 4-cycle engines with spring diameters up to 1-1/16" (27mm), including Briggs & Stratton, Harley-Davidson, Wisconsin, Kohler, Homelite, Lauson and Onan. Built tough of hardened and tempered steel. Plated finish. Height 5-1/8" (130mm), Depth 3-3/8" (86mm).

No. 574 AIR OPERATED VALVE LIFTER



Safe, fast, complete control in compressing the springs or in lowering the spring to receive keepers. Services all late model car, truck, bus, tractor and many marine and industrial engines. The only valve lifter with completely parallel lift. Positively will not bend valve stem. Operates on line pressure of 90-150 lbs. Develops pressure equal to three (3) times line pressure. Height 9-3/4" (248mm), Width 7" (178mm). Spring capacity 1" to 2-1/2" (25 - 63mm) diameter springs. Includes three (3) pairs of jaws:

No. 575-1 Small Straight Jaw Set

Capacity 7/8" (22mm) dia., pair

No. 575-2 Medium Offset Jaw Set

Capacity 1" to 2" (25 - 51mm) dia., pair

No. 575-3 Large Straight Jaw Set

Capacity 1-1/2" to 2-1/2" (39 - 63mm) dia., pair

No. 876 PARALLEL LIFT "C" CLAMP VALVE SPRING COMPRESSOR

This tool features a completely parallel lift which positively will not bend the valve stems. It also features a new patented time-saving quick change jaw. Just loosen one (1) screw on each side of the jaw, remove the jaw, place replacement jaw, relocate the clamp and tighten the screw. One person can compress springs and replace keepers. Packaged with one (1) set of No. 876-2, Medium Offset General Purpose Jaws.

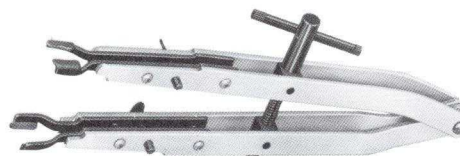


Available Jaws For No. 876 Compressor:

- No. 876-1 Small Straight Jaw Set with Hook
- No. 876-2 Medium Offset Jaw Set with Hook (included with No. 876)
- No. 876-3 Large Straight Jaw Set with Hook

No. 772 SMALL ENGINE VALVE SPRING COMPRESSOR

The ideal tool for removing and replacing valve springs on Briggs & Stratton and other small engines. Long, slender design reaches into small recesses where valve springs and retaining washers are located.



No. 388 HARMONIC BALANCER INSTALLER

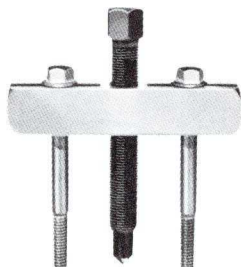
A must to properly install harmonic balancers or drive pulleys that are pressed on the crankshaft. Patent Pending. Instructions included. Use with Cal-Van No. 189, Harmonic Balancer Puller/Remover. Adapters Included: 7/16" - 20; 9/16" - 18; 12mm - 1.5(black); 3/4" - 16; 1/2" - 20; 5/8" - 18; 14mm - 1.5(black).



No. 189 HEAVY DUTY HARMONIC BALANCER PULLER

Designed to pull balancers, vibration dampers, pulleys and gears with tapped holes. The four (4) slots in the yoke allow tool to be used for either two- (2) or three- (3) hole applications. The removable, floating swivel prevents damage to shaft ends. Comes complete with the necessary side screws, three (3) 3/8" - 24 x 2", three (3) 5/16" - 18 x 2", two (2) 3/8" - 16x4", three (3) M8 x 1.25 x 80 mm, and 7/8" centerscrew. Zinc plated. Yoke is forged from alloy steel, heat treated. The finest tool of its kind available. Packaged in attractive clamshell.





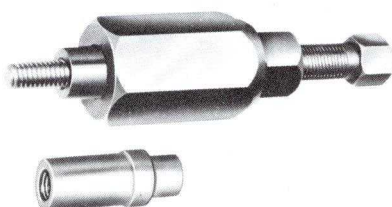
No. 10 TIMING GEAR PULLER

Designed to pull timing gears, and all other gears with tapped holes. Sliding jaws enable tool to handle gears of many widths. Cross arm 1" (25mm) square, 4" (102mm) side screws 5/16" - 18. Width of body 5" (127mm). Length of center screw 5-7/8" (149mm). This tool may be used with No. 501 Bearing Splitter.



No. 192 PULLEY PULLER

This tool is designed and built to give you positive pulling power to remove pressed on one- (1) or two- (2) groove pulleys on alternators and power steering pumps. Will also remove alternator bearings. The attached jaws fit over the flange and are locked into position by adjusting thumb screws. Turning down on the center pressure screw produces a powerful, equally distributed pulling force. There are no loose parts on this tool to lose or misplace.



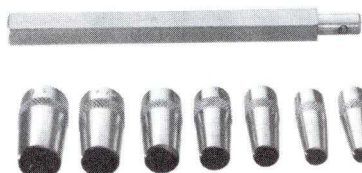
No. 193 POWER STEERING PUMP PULLEY INSTALLER

Designed specifically to press the pulley on Ford power steering pump shaft. Includes No. 193-4 adapter for Chrysler products.



No. 195 POWER STEERING PUMP & ALTERNATOR PULLEY REMOVER / INSTALLER

This 2-in-1 impact tool features a 2-sided flange which fits all domestic automobiles including GM, Chrysler and Ford. Removes and installs Saginaw, Thompson and FORD C-2 power steering pumps with grooved assemblies. Works on alternator pulleys with the following grooved hub diameters: 1-1/8" (28mm), 1-1/4" (32mm), 1-5/16" (34mm) and 1-3/8" (35mm).



No. 584 GASKET & HOLLOW PUNCH SET

Set includes the driving mandrel and the following size punches: 3/8" (9mm), 1/4" (6mm), 5/16" (8mm), 7/16" (11mm), 1/2" (13mm), 9/16" (14mm) and 5/8" (16mm). Not for cutting metal.

No. 589 GASKET & HOLLOW PUNCH SET

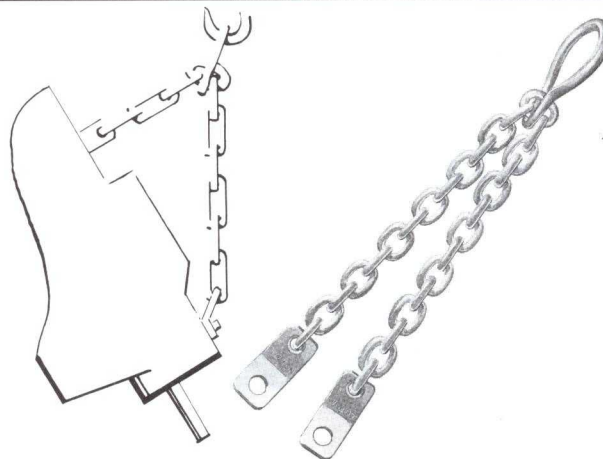
Same as No. 584 with three (3) additional larger sizes, 3/4" (19mm), 7/8" (22mm) and 1" (25mm). Packed in attractive molded plastic storage box for protection and easy use.



673-3480

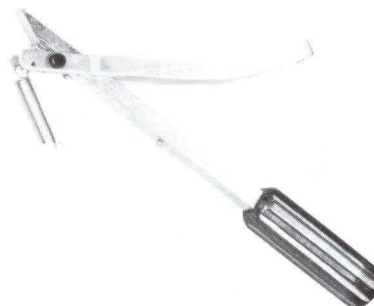
No. 582 ENGINE CHAIN LIFT

For easy removal of car and truck engines and other heavy units from chassis. Self-balancing and self-securing link-lock feature insures safe, non-slip lifting. 1/2-ton load tested, plated, heat treated, alloy steel. Do not fasten ends more than 20" (508mm) apart. 28" (711mm) OAL.



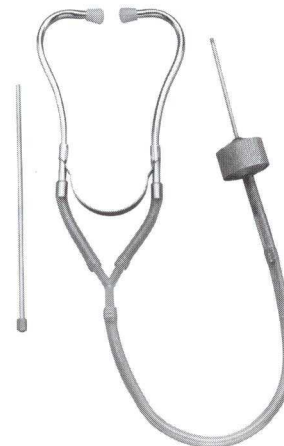
No. 565 FLYWHEEL TURNER

This time saver tool eliminates crawling in and out from under car to turn engine by permitting adjustments to be made easily from mechanic's working position under car. Correct spring tension holds the turner fast to flywheel giving mechanic freedom of both hands. Adaptable to any make/model car, truck, bus or tractor.



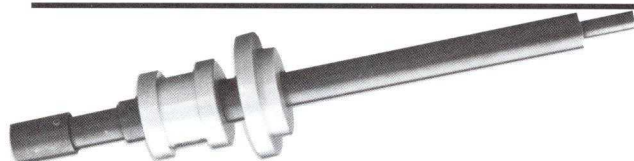
No. 140 MECHANIC'S STETHOSCOPE

This sensitive instrument provides a fast and accurate method of locating troubles in engines and other moving parts before internal damage occurs. Plastic ear plugs shut out outside noise. Stainless steel headset connects to 0° clear plastic tubing to transmit 100% of available sound. An aluminum sound chamber amplifies even the lowest sounds through a rubber mounted probe.

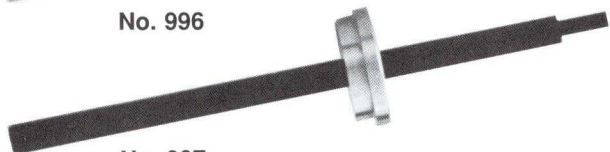


No. 141 Extension For No. 140

This 12" (305mm) extension screws on to the end of No. 140 standard needle for greater reach.



No. 996



No. 997



No. 998

No. 996 - 998 OIL PUMP PRIMERS

These three (3) oil pump primers protect a freshly rebuilt or modified engine from premature wear caused by a dry start. The special design includes a machined aluminum collar that simulates the distributor and helps to eliminate damaging side loading of the oil pump drive while priming. Each tool packaged in vinyl storage pouch.

- No. 996 Oil Pump Primer GM V6 - V8
- No. 997 Oil Pump Primer Ford with 1/4" hex drive
- No. 998 Oil Pump Primer Ford with 5/16" hex drive



No. 184, 185 FORD BELT TENSIONER -TORQUE WRENCH ADAPTER

Allows adjustment of timing belt tensioner bolt to precise torque readings. Makes access to bolt easy with torque wrench.

- No. 184 For use on 1986 to current Ford Escort/EXP cars with 1.9L engines.
- No. 185 Fits 1981 to current Ford Escort, Lynx and Tempo/Topaz front wheel drive vehicles with 1.6L engines.



No. 199 FORD BELT TENSIONER

This tool allows for easy access to those hard to reach belt tensioners on Ford Taurus and Mercury Sable automobiles with 3.8L engines. 5/8", 12 point wrench. 26" (660mm) OAL.



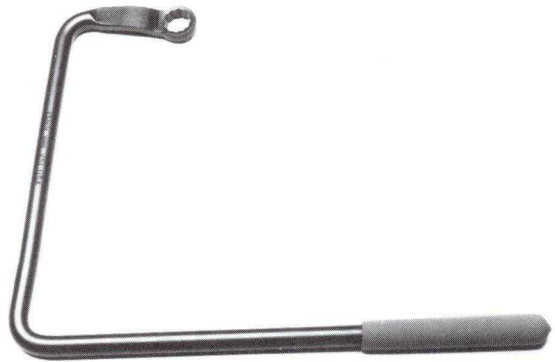
No. 188 FORD FAN CLUTCH TOOL SET

Conventional wrenches are too wide to remove the fan clutch on Ford 4.9 L engines. While holding the fan clutch stationary with the clutch holder tool, turn the fan clutch nut with the included wrench. Each wrench features a special hole for use with breaker bar to provide higher torque.



No. 198 CHRYSLER BELT TENSIONER

Designed in an "L" shape to reach under the front motor mount to access the tensioner bolt. Fits belt tensioners on 3.3L transverse engines including Dodge and Plymouth mini-vans. 15mm, 12 point wrench.



No. 389 CAMSHAFT SPROCKET TOOL

Use on Escort/Lynx when checking the timing belt tension on 1.6 L engines. Holds the camshaft sprocket for torquing after installing the cam seal or replacing the cam.



Nos. 376-380, 394-397 FLEX HONES®

Flex Hones® produce a plateaued finish with a uniform cross-hatched pattern resulting in excellent retention engine oil. Made of 180 grit silicon carbide. Available in many popular diameter sizes. Always wear safety goggles. Never exceed the recommended maximum safe free speed R.P.M. rating of the brush.

All Flex Hones® carry a manufacturer's 90-day limited warranty against defects in workmanship. Keep sales receipt for proof-of-purchase.

BLOCK CYLINDERS or LINERS - HEAVY DUTY (13-1/2" OAL)

- | | | |
|----------------|----------------------------------|---------|
| No. 376 | Fits bore sizes 2-3/4" to 3" | (76mm) |
| No. 377 | Fits bore sizes 3" to 3-1/4" | (83mm) |
| No. 378 | Fits bore sizes 3" to 3-1/2" | (89mm) |
| No. 379 | Fits bore sizes 3-1/2" to 4" | (101mm) |
| No. 380 | Fits bore sizes 3-3/4" to 4-1/4" | (108mm) |

BLOCK CYLINDERS (13-1/2" OAL)

- | | | |
|----------------|-------------|---------|
| No. 394 | Fits 3-1/2" | (89mm) |
| No. 395 | Fits 3-3/4" | (95mm) |
| No. 396 | Fits 4-1/8" | (105mm) |
| No. 397 | Fits 4-5/8" | (118mm) |

No. 387 FLEX HONE® OIL

This special oil is formulated to give you optimum honing results. Designed to work with all types of metal. Prevents galling of aluminum, assures complete lubrication of honing surface and helps keep metal cuttings and contaminants in suspension. Available in 1/2 pint can.

CAUTION: Do not use Flex Hone® Oil on hydraulic brake cylinders - Use hydraulic brake fluid only for this job.





No. 360 ENGINE CYLINDER HONE

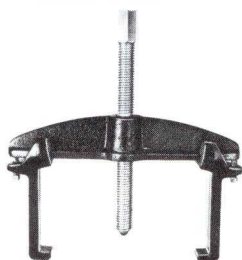
Extremely versatile hone for 2" to 7" (51 - 178mm) diameter cylinders found on cars, trucks, buses, tractors, industrial engines and small air-cooled engines. Adjustable to infinite diameters throughout its entire range. Flexible shaft, controlled spring action; spread control limiter are features which contribute to faster changing from one cylinder to another with fastest cutting action. Equipped with 4" (102mm) Medium Grit stones. Operated by high or low speed electric drill. Use with cutting oil for best results.

Available Replacement Stones For No. 360:

No. 361 Medium Grit, 220-240 Grit. Set of three (3).

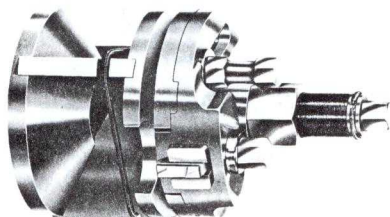
No. 361-01 Fine Grit, 400 Grit. Set of three (3).

No. 361-02 Coarse Grit, 100 Grit. Set of three (3).



No. 773 STRAIGHT LINE PULLER

Ideal for pulling timing gears, pump shaft. Malleable iron frame and forged, heat treated jaws 3" (76mm) long. 6" (152mm) spread. Center screw 7" (178mm) long.

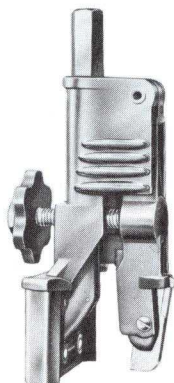


No. 364 RIDGE REAMER - LATHE TYPE

Designed to position from cylinder wall the lathe action follows worn cylinder contour and imperfections to remove all the ridge with one setting. Never need adjusting. Full floating tungsten carbide cutter stays sharp indefinitely. Range 3" to 5" (76 - 127mm).

No. 365 Carbide Cutter

No. 366 Special Set of Jaws for compacts and imports



No. 368 RIDGE REAMER

This ridge reamer features: Longer life of cutter blade before sharpening - cutter blade body is hard chrome plated for lasting service - cutter blade follows out-of-round cylinder walls - under-cutting is eliminated - self-aligning cutter blade. The Carboly tipped cutter blade will remove the ridge in Ford steel sleeves without damage to the cutter blade. Range of sizes: 2-3/8" to 4-1/8" (60 - 105mm). Includes two (2) reversible cylinder side plates: first plate fits 2-13/16" to 3-5/16" and 3-3/8" to 3-9/16"; second plate fits 3-5/8" to 3-13/16" and 3-7/8" to 4-1/8" cylinders.

No. 368-1 Replacement Cutter Blade

No. 563 RING GROOVE CLEANER

This ring groove cleaner is instantly adjustable to remove carbon from ring grooves on 2" to 5" (50.8 - 127mm) pistons. It may also be used to deepen grooves to accommodate inner rings. The intricate design will not gouge, catch in oil holes, climb out of the groove or chatter. A compensating spring controls the cutter pressure and assures a clean cut. Rigid frame prevents side play. Includes one standard and one metric cutter wheels. Standard cutter includes sizes: 1/16", 5/64", 3/32", 1/8", 5/32", 3/16", 1/4". Metric cutter includes sizes: 2mm, 2.5mm, 3mm, 4mm, 4.5mm.

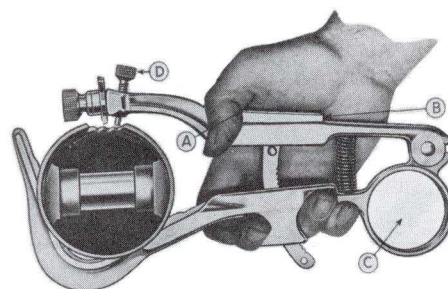
No. 563-1 Cutter Wheel Replacement Kit

Kit includes both standard and metric cutter wheels and adapters to fit No. 563.



No. 562 DELUXE PISTON GROOVE CLEANER

The locking principle is quickly executed and positive. NO BACK SLIPPING. The large ring at "C" for inserting the finger in revolving the tool is a unique feature. Pressure at "A" locks the tool; pressure at "B" releases. Ring Groove Depth Screw -Letter "D" prevents cutterblade from dropping into large oil holes and oil slots in ring grooves. The quick-setting, self-aligning, large, five-prong cutter blade is a major feature permitting quick operation in adjusting to the various ring groove widths. 5/64" (2mm), 3/32" (2mm), 1/8" (3mm), 5/32" (4mm) and 3/16" (5mm).

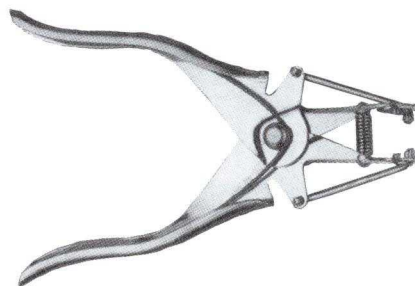


Available Replacement Cutter Wheels:

- | | |
|------------------|-----------------------------------|
| No. 562-1 | Regular cutter wheel replacement |
| No. 562-2 | 1/16", 1/4", 5/16", 2.5mm and 3mm |

No. 566 PISTON RING EXPANDER

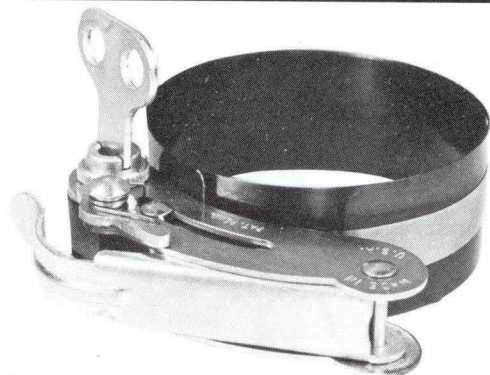
This universal expander handles rings on most cars and trucks. Gripping edges are smooth to eliminate damage and breakage of rings during installation.



No. 576 WRINKLE BAND RING COMPRESSOR

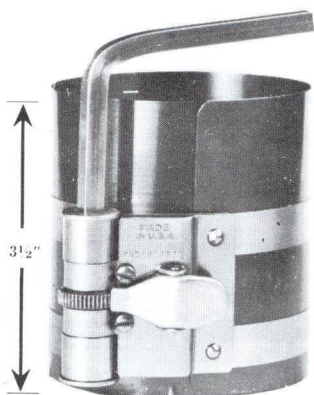
This tool is easy to use. Simply set the adjustment screw once for the complete job. Reduces ring friction. Slides into cylinder easily. Unique wrinkle band will not slip down into cylinder. Fits 3" to 5" (76-127mm) pistons.





No. 567 PISTON RING COMPRESSOR

A real time saver. Make one (1) simple adjustment using key with lever arm in closed position. After adjustment is made, compressor will return to the set position every time lever is closed to compress rings on piston. Fits 2-3/4" to 4-1/2" (70 - 114mm).

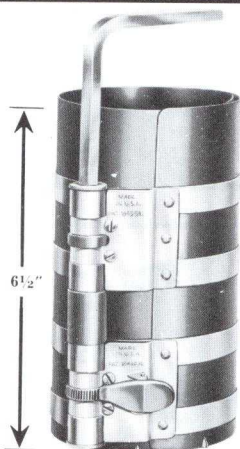


No. 569 UNIVERSAL RING COMPRESSOR

Designed to handle all types of rings, including channelled, segment, etc. May be used on late model Chevrolet and Ford products with tapered block by using compressor upside down. Has beaded edge so compressor can not enter cylinder with piston. Positive ratchet lock of hardened steel. Height of spring steel band: 3-1/2" (89mm). Capacity: 2-1/8" to 5" (54-127mm) diameter. Type: Ratchet.

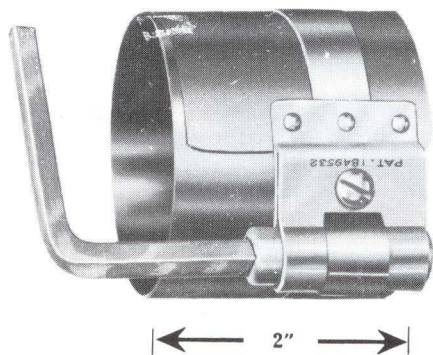
No. 569-T HEAVY DUTY RING COMPRESSOR

Has all of the advantages of our No. 569, but is manufactured stronger and larger to handle buses, tractors, etc. Capacity: 3-1/2" to 7" (89 - 178mm) diameter.



No. 570 JUMBO RING COMPRESSOR

Designed for large truck, tractor, and diesel motors, where the top ring is more than 3-1/2" from the bottom ring. Height of spring steel band: 6-1/2" (165mm). Capacity: 3" to 7" (76-178mm) diameter. Type: Ratchet.

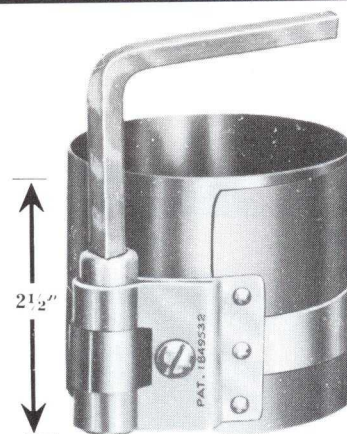


No. 572 SMALL RING COMPRESSOR

Ideal for use on all of the import engines, power mowers, air compressors, and other small engines. Height of spring steel band: 2" (51mm). Capacity: 1-1/2" to 3" (38-76mm) diameter. Type: Friction.

No. 419 ECONOMY RING COMPRESSOR

This tool is ideal for the small garage or individual repair jobs. Designed to handle the majority of passenger cars with tapered blocks, including the late model Chevrolets and Fords. Height of band: 2-1/2" (64mm). Capacity: 2-1/8" to 5" (54-127mm) diameter. Type: Friction.



No. 560 LEAK-CHECK

Spots and locates combustion leaks quickly in cracked or warped heads, leaky gaskets or cracked block. Use Leak-Check in the radiator opening with engine idling. The blue test liquid will turn yellow in 60 seconds if there is a combustion leak, no matter how small. Get exact location of leak by disconnecting one spark plug at a time and retesting. Completely accurate proof of leak. Works on both domestic and import vehicles. For Gas Engines Only!

No. 560-1 Test Fluid refill. 16 Fluid Ounce container.



No. 757 HOSE & PVC PIPE CUTTER

Heavy duty plastic body and handles. Heat treated razor sharp blade (stainless steel). Square cuts both PVC pipe and all sizes rubber hose up to 1-7/16" (36.5mm) O.D. Compound mechanical cutting action for easier cutting.

No. 757-1 Replacement blade for No. 757

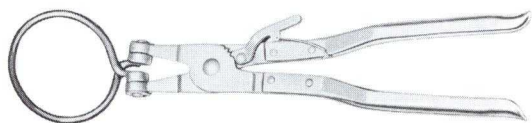


No. 450 HOSE PINCH OFF PLIERS

Eliminates the need to drain systems when servicing cooling systems. Pliers squeeze heater or radiator hoses shut and jaws swivel for parallel clamping. Automatic locking ratchet. May also be used to pinch off vacuum lines and fuel lines.

Caution: Not for use on wire reinforced radiator hoses.





No. 452 HOSE CLAMP PLIER

Keep wire clamps spread open and free both hands. Finger tip "position lock" makes it easy to replace the lower radiator hose. Locks in 3 positions. Fits all size clamps. Perfectly balanced.



No. 734 ECONOMY POCKET RADIATOR TESTER (4 Balls)

Tests permanent type anti-freeze protection to -40° . Floating balls give you easy, accurate reading working on specific gravity principle. Plastic pocket carrying pouch included.



No. 737 FREEZMETER

Glass barrel holds 4-way scale. Tests alcohol, prestone, zerone and glycerine. Tool has a 2 oz. red rubber bulb and a one-piece 6" (152mm) tip. 15" (381mm) OAL. Boxed.



No. 736 RADIATOR HOSE REMOVER

This tool is designed for radiator and heater hose removal. Insert the tool point between the hose and the radiator outlet. By moving the tool around the outlet, the hose is broken loose for easy removal.

No. 785 to 798

CUP TYPE OIL FILTER WRENCHES

These cup-type filters are made of 7 and 16 gauge construction and can withstand up to 85 ft. lbs. of torque. Cup-type design grips like a socket thus minimizing the possibility of crushing filters. Use 3/8" square drive tool. Coated with a black oxide finish for rust protection.

- No. 785 65mm (2-9/16") - 14 flutes - 1 step**
Fits Champ, Hastings, GM/AC, Wix, NAPA, Purolator, Diahatsu, Toyota filters.
- No. 786 68mm (2-11/16") - 14 flutes - 1 step**
Fits Hastings, Mazda, Ford Escort, Capri, Subaru, Fram PH6607 (those Fram filters made in Korea), Motorcraft FL816 filters.
- No. 787 73mm (2-7/8") - 14 flutes - 1 step**
Fits Toyota / Lexus filters.
- No. 788 74 to 76mm (2-29/32 to 3") - 15 flutes - 2 step**
Fits Fram, AC, Saturn filters.
- No. 789 76mm (3") - 14 flutes - 1 step**
Fits Champion, Champ, Lee, Purolator, Mopar, VW, Porsche, Mercedes, BMW filters.
- No. 790 80mm (3-9/64") - 15 flutes - 1 step**
Fits Hastings, Fram, Purolator, Nissan, Honda, Motorcraft, Mazda, Isuzu, Subaru filters.
- No. 791 93mm (3-21/32") - 15 flutes - 1 step**
Fits Casite, Champ, Champion, GM, Fram, Hastings, Purolator, Wix, Nissan, VW, Porsche, Renault filters.
- No. 792 93mm (3-21/32") - 36 flutes - 1 step**
Fits Motorcraft only - FL1A, FLA1B, FL300, FL820 filters.
- No. 793 65 - 67mm (2-9/16" to 1-21/32") - 14 flutes - 2 step**
Fits same filters as No. 785, plus also fits those Fram filters made in Canada, including: PH4386, PH4967, PH6017, PH6018.
- No. 794 82mm (3-7/32") - 15 flutes - 1 step**
Fits Wix filters, branded for: Mazda, Subaru, Toyota, Honda, Acura, Nissan, NAPA.
- No. 795 90mm (3-17/32") - 15 flutes - 1 step**
Fits Honda Accord, Mitsubishi, Mopar, Isuzu filters.
- No. 796 75 - 77mm (2-15/16" to 3-1/32") - 15 flutes - 2 step**
Fits Casite, GM/AC, Hastings, Wix, NAPA, Ford, Isuzu filters.
- No. 797 76mm (3") - 30 flutes - 1 step**
Fits Motorcraft only - FL400A.
- No. 798 100mm (4") - 15 flutes - 1 step**
Fits Fram, Motorcraft, Wix, Isuzu and Mitsubishi filters.





HEAVY DUTY SWIVEL OIL FILTER WRENCHES

Features swivel handle which allows user to reach filter in hard-to-reach places. Wide dimpled band securely grips filters without crushing. Easy grip vinyl handle.

- No. 993** Fits filters 2-3/8" to 2-7/8" (60 - 73mm).
- No. 994** Fits car and truck filters with diameters of 2-7/8" to 3-1/4" (73 - 83mm).
- No. 995** Fits car and truck filters with diameter of 3-7/16" to 3-3/4" (87 - 95mm).
- No. 999** Fits truck and tractor filters with diameter 4" to 4-3/8" (102 - 111mm).



No. 986 HEAVY DUTY 3-STEP SWIVEL OIL FILTER WRENCH

Combines the versatility of our swivel oil filter wrenches with the added benefit of three (3) settings to enable this wrench to fit a wide range of disposable filters. Wide dimpled band securely grips filters without crushing. Fits filters with diameter of 2-3/4" to 4-1/4" (70 - 108mm).



No. 990, 992 STANDARD OIL FILTER WRENCHES

Designed to remove spin-on disposable oil filters. Dimples on inside of band give a positive friction grip and will exceed normal removal requirements. Will not puncture or crush filter.

- No. 990** Fits filters 3-7/16" to 3-3/4" (87 - 95mm).
- No. 992** Fits truck and tractor filters 4" to 4-3/8" (102 - 111mm).

No. 14 STANDARD OIL FILTER WRENCH

Designed to remove all disposable oil filters from cars and trucks. Combines positive friction grip with enough leverage to exceed normal requirements. Will not puncture or crush filter. Operates in close quarters. Fits filters with diameter of 3-1/2" to 3-7/8" (89 - 98mm).



No. 15 ECONOMY OIL FILTER WRENCH

This tool allows for sure easy replacement of cartridge type oil filters. Will not slip on oily surfaces. Fits filters with a diameter of 3-1/2" to 3-7/8" (89 - 98mm).



No. 891-893 HEAVY DUTY SQUARE DRIVE OIL FILTER WRENCHES

Wide steel band designed to withstand the high torque requirements of truck, bus, RV and heavy duty equipment filters. Use with 1/2" square drive tool.

- No. 891 Fits filters 4-1/8" to 4-21/32" (105 - 118mm)
- No. 892 Fits filters 4-21/32" to 5-5/32" (118 - 130mm)
- No. 893 Fits filters 5-5/32" to 5-21/32" (130 - 143mm)

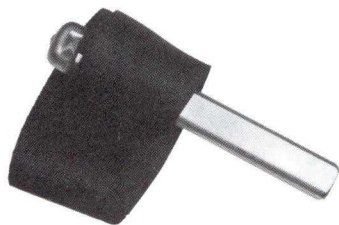


No. 983 - 985 SQUARE DRIVE OIL FILTER WRENCHES

Designed for use in those hard-to-reach places. For use with 3/8" square drive.

- No. 983 Fits filters with diameter of 2" to 2-1/2" (51 - 64mm).
- No. 984 Fits filters with diameter of 2-13/16" to 3-1/8" (71 - 79mm).
- No. 985 Fits filters with diameter of 3-7/16" to 3-3/4" (87 - 95mm).





No. 814 "ALL SIZE" FILTER WRENCH

This filter wrench adjusts quickly to fit any spin-on filter up to 6" diameter. Strong nylon web belt will not slip. Use with 1/2" square drive wrench.



No. 297 & 298 OIL FILTER PLIERS

New plier design features no-slip jaws with gripping teeth to easily remove stubborn spin-on oil filters.

No. 297 Fits filters with diameter of 2-3/4" to 3-1/4" (70 - 83mm).

No. 298 Fits filters with diameter of 3-1/8" to 3-5/8" (79 - 92mm).



No. 894 CHAIN OIL FILTER WRENCH

Sturdy steel chain provides grip and range. 1" (24.5mm) wide steel band works with chain to grip and remove filter. Adjustable range up to 4-1/2" (114mm).



No. 987 3-LEGGED OIL FILTER WRENCH

This "three leg" design is ideal for removing spin-on oil filters in tight areas. No handle to interfere with removal. Long serrated legs driven by a 3/8" extension and ratchet wrap around filter. Fits filters with diameter of 2-1/2" to 4-3/4" (64 - 121mm).



CAM TYPE OIL FILTER WRENCH

No. 819 This cam action self-adjusting oil filter wrench fits filters with diameters of 3-5/8" to 3-15/16" (91 - 100mm). May be used with 3/8" square drive or 7/8" open end wrench.

No. 820 Universal tool for any small diameter spin-on oil filter 2-3/8" to 2-11/16" (60 - 65mm). Will fit all fluted and round small diameter filters. Use with 3/8" square drive or 7/8" open end wrench.

Brake Spring Pliers • Brake Spring Compressors • Brake
Piston Clamps • Brake Bleeder Wrenches • Brake Spoons
• Bendix Brake Adjustment Tool • Disc Brake Piston Boot
Installer Set • GM Disc Brake Hard Ring Dust Boot Installer
• Flange Type Axle Puller • Flange Type Axle & Front Wheel
Hub Puller • Brake Cylinder Hones • Engine Cylinder Hones
• Flex Hones • Flex Hone Oil • Lock Ring Plier • Brake
Caliper Retaining Clip Remover • Disc Brake Pad Spreader
• Brake Bleeders • Brake Bleeder Tank • Disc Brake Cali-
per Bolt Tools • Disc Brake Piston Remover • VW Front
Wheel Bearing Locking Wrench • GM Disc Brake Caliper
Wrench • Disc Brake Wrench • Brake Caliper Sockets •
Caliper Mounting Remover/Installer • Clutch Aligning Tool
• Metric Clutch Aligning Tool • GM Transmission Seal Re-
mover/Installer • Plastic Clutch Alignment Tools • Trans-
mission Stop Off Tool • Muffler & Tailpipe Cutter • Metal &
Muffler Cutter • Tailpipe Expanders • Exhaust Tailpipe
Cutter • Tailpipe & Tubing Cutter • Retaining Ring Plier •
CV Dust Boot Clamp Plier • CV Dust Boot Clamp Installer
• Boot Remover/Installer • FWD Axle Puller Set • Ford Out-
board CV Joint Puller Set • Seal Puller • Bearing Race In-
staller • 4WD Grease Gun Adapter • Hand Bearing Packer
• FWD Bearing Locknut Wrenches • Axle Nut Sockets •
Truck Spindle Nut Wrenches • Shock Absorber Link & Tie
Rod End Puller • Ball Joint Separator • Pitman Arm Wedge
• Pitman Arm Puller • Inner Tie Rod Tool • Saginaw Tie
Rod Sockets • Ball Joint Removal/Installation Set • 4WD
Ball Joint Service Kit • Coil Spring Compressor •
MacPherson Strut Coil Spring Tool • GM W-Body Strut Ser-
vice Kit • Bearing Lubricators • GM Shock Absorber Socket
• Front Shock Absorber Tool Set • Snap In Tire Valve In-
staller • Tire Valve & Air Conditioning Tool • Tire Valve
Stem Repair Tool • 4-In-1 Valve Stem Repair Tool • Tire
Deflator & Core Remover • Wheel Cover Tool • Wheel
Weight Tool • Grease/Dust Cap Remover Plier • Recoil Air
Hose • Pencil Tire Gauge • Dual Foot Pocket Tire Gauge •
Dual Foot Truck High Pressure Gauge • Dual Foot Air
Chuck • Single Face Air Chuck • Safety Blow Gun • Rub-
ber Tipped Blowgun • Flange Type Axle Puller • Automatic,
Pneumatic Tool Oiler • Brake Spring Pliers • Brake Spring
Compressors • Brake Piston Clamps • Brake Bleeder
Wrenches • Brake Spoons • Bendix Brake Adjustment Tool
• Disc Brake Piston Boot Installer Set • GM Disc Brake
Hard Ring Dust Boot Installer • Flange Type Axle Puller •
Flange Type Axle & Front Wheel Hub Puller • Brake Cylin-
der Hones • Engine Cylinder Hones • Flex Hones • Flex
Hone Oil • Lock Ring Plier • Brake Caliper Retaining Clip
Remover • Disc Brake Pad Spreader • Brake Bleeders •
Brake Bleeder Tank • Disc Brake Caliper Bolt Tools • Disc
Brake Piston Remover • VW Front Wheel Bearing Locking
Wrench • GM Disc Brake Caliper Wrench • Disc Brake
Wrench • Brake Caliper Sockets • Caliper Mounting Re-

UNDER CAR



No. 59 BRAKE SPRING PLIER

The slotted arm guides the spring hook into position in the anchor hole. End of handle is used to fasten post anchor type springs. Sturdy, for durability and leverage. 13" (330mm) OAL.



No. 267 BRAKE SPRING PLIER

Designed by professional mechanics to remove and replace springs. Thin narrow points with "straight-in-line" pull on spring. Includes special socket for application on all hydraulic brakes. Forged alloy steel plated. 3-1/2" (343mm) long.



No. 269 COMBINATION BRAKE SPRING COMPRESSOR

Removes brake shoe retaining spring washers up to 7/8" (22mm) diameter on full size cars and light trucks. Place tapered end over brake spring retaining washer. Push tool in and rotate 1/4 turn to release pressure and remove spring. Reverse to install.



No. 369 BRAKE SPRING COMPRESSOR-COMPACT

Removes brake shoe retaining spring washers 5/8" to 11/16" (16 - 17mm) diameter. Use on late model compact cars and light trucks. Place tapered end over brake spring retaining washer. Push tool in and rotate 1/4 turn to release pressure and remove spring. Reverse to install.



No. 294 PARKING BRAKE SPRING COMPRESSOR

Designed to remove and install lever cable attached to brakeshoe on cars and trucks. End of tool fits between spring and cable end, plier compresses spring to allow emergency brake lever to be installed.

No. 270 BRAKE PISTON CLAMPS

Designed for passenger cars and trucks with double-end pistons. Quickly applies pressure on brake cylinder pistons. Instantly adjusts to any size brake cylinder. Range 1-1/8" to 3-1/4" (29 - 82mm). Sturdy spring steel, ample tension. Set of two (2) clamps. 7-1/4" (184mm) OAL.



No. 275, 276 BRAKE BLEEDER WRENCHES

No. 275 1/4" & 3/8" Wrench

Speeds brake work. 1/4" hex opening for compact cars. 3/8" hex socket for conventional cars and trucks. Vent hole in socket end permits line to be bled without removing tool from bleeder screw.

No. 276 5/16" & 3/8" Wrench

For Chevrolet, Ford and Lincoln with ball joint suspension. 5/16" socket fits bleeder screw cap. 3/8" socket, with special vent hole, fits turning screw.



No. 870 GM BRAKE BLEEDER WRENCH

Designed for bleeding rear wheel cylinders on 1978 to current model full size GM cars with recessed bleeder fittings. Wrench socket is 5/16" with an "O" ring gasket to seal wrench to bleeder fitting. 24" (610mm) plastic tube carries brake fluid away from fitting.



No. 272 BRAKE SPOON

Small brake spoon for late model Chevrolet cars and others similarly equipped with narrow brake drum slots. 7" (178mm) long. Plated.



No. 273 BRAKE SPOON

Fits all brakes, except Chevrolet. One end square cut, the other end tapered 22° for added reach. Hex stock, forged heat-treated, plated. 9" (229mm) OAL.





No. 278 BRAKE SPOON

Adjusts brakes on most standard end GM cars and trucks. Modified end adjusts all ordinary Bendix Brakes because it clears the lower control arm of the ball joint suspension and reaches blind locations. Provides leverage in tight spaces. Length 9" (229mm).



No. 279 BENDIX BRAKE ADJUSTMENT TOOL

Insert prong under plug and lift plug. Leave plug securely held between prongs while adjusting brake with lever end of tool. 8-1/4" (210mm) long.



No. 280 BRAKE SPOON

Designed to adjust Bendix, and other hydraulic brakes. Both ends are notched to work without slipping on cars having narrow type adjusting nut. Bent at correct angle to clear body and frame. 9" (229mm) OAL.



No. 292 BRAKE SPOON

Designed for VW Rabbit, Audi, Scirocco, Nissan (Stanza and Centra), Honda Accord and Prelude, and Jetta with drum brakes which have access holes provided in the backing plate. 5-1/2" (140mm) OAL.



No. 293 BRAKE SPOON

Designed for mid-size rear wheel drive GM cars (pre-1983) with adjuster slots through the back of the backing plate. Works on many Toyota automobiles and pick-ups. Datsun/Nissan, older Mazda, (drum brake models), as well as, many other older imported vehicles with front drum brakes. 8-1/4" (210mm) OAL.



No. 295 BENDIX BRAKE SPRING TOOL

Designed for Bendix and other brakes that have a return spring that hooks over a post. Use socket end to remove spring by rotating hook off post. Use the opposite end to leverage spring onto post.



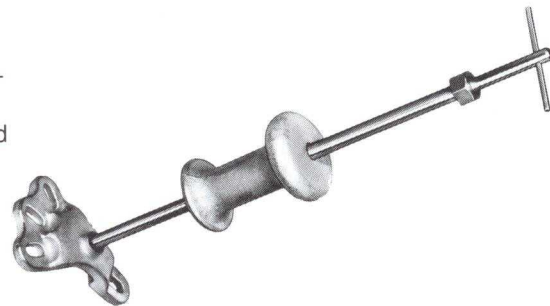
No. 827 GM DISC BRAKE HARD RING DUST BOOT INSTALLER

Each of the four (4) sizes of boot installers (cups) in this set has a special seal edge that installs the boot evenly to prevent bending of the dust boot ring or cutting of the boot's rubber to better seal out dust and water. All steel. Works on most GM cars and trucks.



No. 498 FLANGE TYPE AXLE PULLER

This tool can be used as a regular wheel or hub puller as well as a flange type puller. The bolt circle range is from 4-1/2" to 5-1/2" (114-140mm) which covers all major cars and small trucks with flange type axles. The four (4) slots in the adapter allow this tool to be used on either 4, 5, or 6 bolt or stud designs. Has extra heavy 5-1/4 lb. sliding hammer. Shaft threads 5/8" x 18.



Also Available Individually:

No. 498-01 Flange

No. 499 Slide Hammer, 5/8" - 18 Threads, 5-1/4 lb.

No. 526 FLANGE TYPE AXLE & FRONT WHEEL HUB PULLER

Designed for use on domestic and import cars and light trucks with independent front suspension. When brake service or front wheel bearing service is performed, the deep throat of this tool allows the necessary removal of the front hubs. Center screw is 5-1/2" (139mm) long with 5/8" x 18 threads. Range is 3-3/4" to 4-1/2" (95 - 114mm). Without the center screw, this tool also removes the flange type axles on compact, sub-compact and many import cars. For use on either 4, 5, or 6 bolt or stud design. All non-C lock GM axles. Can be used with No. 499 Slide Hammer.





Nos. 382-383, 390-397 FLEX HONES®

Flex Hones® produce a plateaued finish with a uniformed cross-hatched pattern resulting in excellent retention of brake fluid. Made of 180 grit silicon carbide. Available in many popular diameter sizes. Always wear safety goggles. Never exceed the recommended maximum safe free speed R.P.M. rating of the brush.

All Flex Hones® carry a manufacturer's 90-day limited warranty against defects in workmanship. Keep sales receipt for proof-of-purchase.

DISC BRAKES (5" OAL)*

No. 382 Fits 2-1/2" (64mm)

No. 383 Fits 3-1/8" (79 mm)

BRAKE CYLINDERS, HYDRAULICS (8" OAL)*

No. 390 Fits 7/8" (22mm)

No. 391 Fits 1" (25.4mm)

No. 392 Fits 1-1/8" (29mm)

No. 393 Fits 1-3/8" (35mm)

*CAUTION: Do not use Flex Hone® Oil on hydraulic brake cylinders -
- Use only hydraulic brake fluid for this job.

No. 362 ADJUSTABLE BRAKE CYLINDER HONE

This finest "full range" hone on the market covers sizes from 3/4" to 2-1/2" (19 - 64mm). Knurled nut controls tension for honing, deglazing throughout full range. Hones clear to the end in step-cut and blind end cylinders. Flexible shaft for easy use right on car. Includes three (3) 1-1/8" (29mm) Medium Grit stones.



Replacement Stones:

No. 363 1-1/8" (29mm) Medium Grit, 220-240 Grit. Set of 3.

No. 363-01 1-1/8" (29mm) Fine Grit, 400 Grit. Set of 3.

No. 363-02 1-1/8" (29mm) Coarse Grit, 100 Grit. Set of 3.



No. 755 ECONOMY BRAKE CYLINDER HONE

Hones all brake cylinders with straight bore or blind end 1-3/16" to 2-3/4" (21 to 70mm) diameter. Includes three (3) 1-1/8" (29mm) Medium Grit stones.

Replacement Stones:

No. 363 1-1/8" (29mm) Medium Grit, 220-240 Grit.

Set of 3.

No. 363-01 1-1/8" (29mm) Fine Grit, 400 Grit. Set of 3.

No. 363-02 1-1/8" (29mm) Coarse Grit, 100 Grit. Set of 3.



No. 357 DISC BRAKE & SMALL ENGINE CYLINDER HONE

This adjustable tension flex shaft cylinder hone covers 1-1/4" to 3-1/2" (32 - 89mm) diameter cylinders. Use on most compact cars, as well as, cycles, lawn mowers and outboard motors. Includes three (3) 2" (51mm) Medium Grit stones. To hone disc brake cylinders larger than 1-1/4" (32mm), order Cal-Van No. 358-1 Fine Grit stones (not included).

Replacement Stones:

No. 357-1 2" (51mm), Medium Grit, 220 - 240 Grit. Set of 3.

No. 358-1 3/4" (19mm), Fine Grit, 400 Grit. Set of 3.

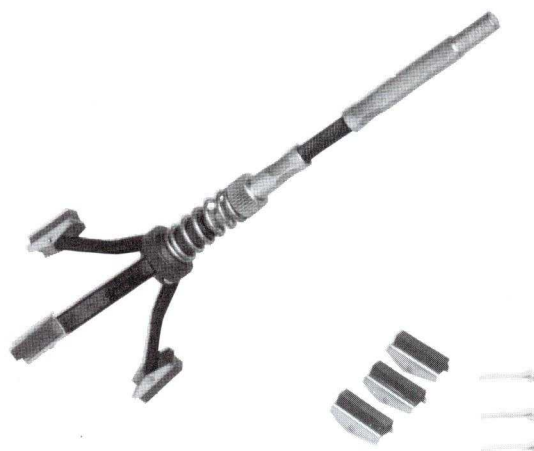


No. 358 DISC BRAKE CALIPER HONE

Equipped with special size Fine Grit stones to hone disc brake calipers providing that the diameter of the bore is not increased over .002 inch (.5mm). A baffle disc should be installed in the caliper when honing to protect the stones from damage. When honing is complete, clean all dust and dirt by flushing caliper with alcohol. Adjustable tension, capacity 3/4" to 2-1/2" (19 - 64mm). Includes three (3) 3/4" (19mm) Fine Grit stones.

Replacement Stones:

No. 358-1 3/4" (19mm) Fine Grit, 400 Grit. Set of 3.





No. 762 BRAKE CYLINDER HONE FOR COMPACT CARS

Recommended for cylinder bores 1/2" to 2-1/4" (13 - 57mm) diameters. Offers fast easy cutting with high or low speed drill. Self aligning and self centering. Flex joint drive with adjustable tension. Includes two (2) 1-1/8" (29mm) Medium Grit stones.

Replacement Stones:

No. 763 1-1/8" (29mm), Medium Grit, 220 - 240 Grit. Set of 2.



No. 268 LOCK RING PLIER

Used to spread snap rings found on brakes, pedal shafts, transmissions, clutch shafts, machine tools, and some piston rings. Jaws are scored on outside for secure gripping. Drop forged alloy steel, polished jaws, nickel-chrome plated. 3/4" (19mm) jaw opening. 8-1/4" (210mm) OAL.



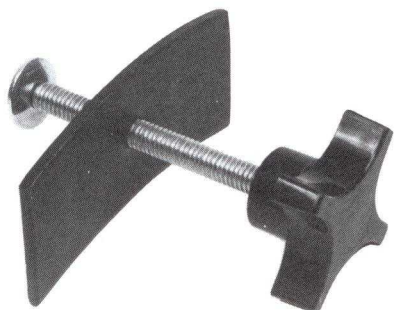
No. 277 BRAKE CALIPER RETAINING CLIP REMOVER

Works on Ford trucks and vans, including: F-150 to F-350, Ranger, Aerostar and vans. The large notched end of the tool compresses the retainer clip and initiates removal of retainer. The opposite smaller end of the tool is then used as a punch to drive the retainer completely out.



No. 299 GM BRAKE CYLINDER CUP REMOVER

Removes retainer clip on rear wheel cylinders on many late model GM cars and trucks.



No. 702 DISC BRAKE PAD SPREADER

Facilitates the quick and easy changing of disc brake pads. Spreader will compress inner pad and reset piston for easy pad replacement. Heavy duty construction.

No. 247 ECONOMY ONE-MAN BRAKE BLEEDER

This is the simplest and most fool-proof one-man brake bleeder devised. No springs, no diaphragms, no moving parts, no connections to leak, no way air can re-enter the system when the brake pedal is released. Instructions included.



No. 274 ONE MAN BRAKE BLEEDER

This tool is a real time saver. By using four bleeders, one on each wheel, all cylinders and lines can be bled in one operation. Instructions included.



No. 246 BLEED-O-MATIC BRAKE BLEEDER

This unique, one-man brake bleeding kit is designed for bleeding individual wheels or master cylinder jobs and eliminates messy brake fluid spills. Device temporarily seals loosened bleed screw threads with brake fluid, thus positively preventing air from re-entering the brake system. Features strong magnet which attaches bottle to any metal surface. Fits all vehicle hydraulic systems.



No. 875 EZE-BLEEDER BRAKE BLEEDER

This tool makes bleeding hydraulic brake and clutch systems a quick, simple one-man operation. Works on the theory that air rises in fluid. Just fill the syringe-type pump with brake fluid from master cylinder and inject it into the open bleeder valve of a caliper or brake cylinder. Fluid forces air out of master cylinder. Kit includes two (2) syringes, one (1) adapter and two (2) tip extensions. Fits all vehicle hydraulic systems.





No. 855 BRAKE BLEEDER TANK

Light weight, plastic, easy to use. Portable tank fills and bleeds both standard and power brakes in a single operation. Tank is easily pressurized with just a few strokes of the built-in hand pump eliminating the need for a compressor. One (1) gallon capacity. 9.66-ft. of hose included. Features quick disconnect coupler, shut-off valve and pressure gauge.

Available Adapters for No. 855:

- No. 861** Universal Adapter, for dual master cylinders most domestic cars, 1967 to present.
- No. 862** Toyota/Nissan Adapter
- No. 864** VW Adapter (does not fit VW Golf, Jetta, Fox)
- No. 865** Chrysler Adapter
- No. 869** Plastic Reservoir Adapter
- No. 1307** **ABS Brake Bleeder Adapter**
Use on Teves Mark II ABS systems found on GM vehicles 1986 -1991.
- No. 1308** **ABS Brake Bleeder Adapter**
For GM Teves Mark IV, Delco Moraine VI ABS systems. Also fits Bosch 2V plus conventional brake systems. GM vehicles 1987 to date.



No. 864



No. 865

No. 869



No. 862

No. 861



No. 1301 CHRSYLER ABS PRESSURE SWITCH SOCKET

This tool is used for removing the Bendix 10 ABS pressure switches on 1990 and newer Chrysler products. Special thin wall design for tight spots. 3/8" drive.



No. 1302, 1303 ABS BRAKE PRESSURE SWITCH SOCKET

Removes and installs ABS pressure switch located on the ABS unit.

No. 1302 3/8" drive, fits 1989 to 1991 Delco Moraine Powermaster III systems.

No. 1303 1/2" drive, fits Teves Mark II systems on GM and Ford vehicles.



No. 1304 ABS PROPORTIONING VALVE DEPRESSOR

Used on the 4WAL unit; one for each of two valves. Also for use on Kelsey Hayes anti-lock brake systems by GM.



No. 1305, 1306 ABS CODE KEYS

No. 1305 GM ECM code retrieval key jumps between A and B terminals on ALDL connector to retrieve trouble codes.

No. 1306 GM ABS code retrieval key jumps between A and G terminals and on the ALDL connector to retrieve trouble codes.



No. 470 to 476 DISC BRAKE CALIPER BOLT TOOLS

These sockets are designed for easy removal of Ford and GM caliper TORX bolts. Features TORX bit set into bolt head recess to help maintain alignment, reduce slippage and increase torque yield. Made of heat treated alloy steel.

No. 470 GM, T-45, 3/8 Dr.
Fits Chevette, Astra, Citation, Skylark, Phoenix

No. 471 GM, T-50, 3/8 Dr.
Fits all GM cars 1988 thru 1991

No. 472 GM, 2 Piece Kit includes No. 470, 471

Note: GM T-45 Caliper Bolt has the same overall diameter and thread size as the T-50.

No. 473 Ford, T-40, 3/8 Dr.
Fits Tempo, Taurus, Sable, late model T-Birds and Cougars.

No. 474 Ford, T-45, 3/8 Dr.
Fits T-Bird, Cougar, LTD, Crown Victoria, Mustang, Granada thru 1988.

No. 475 Ford, T-50, 3/8 Dr.
Fits T-Bird, Cougar, LTD, Crown Victoria, Mustang, Granada thru 1988.

No. 476 Ford, 3 Piece Kit includes No. 473, 474, 475

Note: Ford Caliper Bolts with T-45 and T-50 Torx recesses are identical in size and configuration and have been interchanged on vehicles at factory. Replacement bolts are T-50.





No. 722 DISC BRAKE PISTON REMOVER

Rotates the parking brake activated piston back into caliper cylinder when replacing worn pads on most import, Ford, Chrysler and some GM vehicles equipped with four wheel disc brakes. Use for 3/8" drive. Zinc plated.



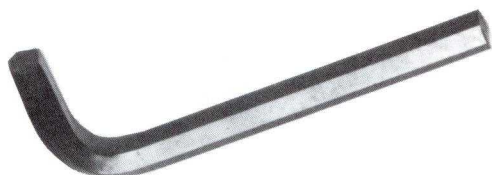
No. 648 VW FRONT WHEEL BEARING LOCKING WRENCH

This specially sized 6mm hex wrench allows brake service to be performed on most VW's. Tool squeezes the collar together to lock the wheel bearings. For Types I, II, III, and IV (including Super Beetle) Volkswagen.



No. 703 GM DISC BRAKE CALIPER WRENCH

This 3/8" hex wrench is a special length for servicing GM disc brake calipers.



No. 804 DISC BRAKE WRENCH

This hex wrench removes 8mm cap bolts on some GM disc brake calipers.



No. 704 GM DISC BRAKE CALIPER SOCKET

Special socket for servicing caliper on GM cars. 3/8" square drive to 3/8" hex.

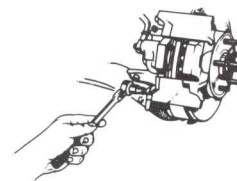


No. 706 DISC BRAKE CALIPER SOCKET

Special socket for servicing caliper on GM cars. 3/8" square drive to 5/16" (8mm) hex.

No. 705 DISC BRAKE CALIPER SOCKET

Special socket for servicing caliper on Ford cars. 3/8" square drive to 1/4" hex.



No. 281 BRAKE DRUM RESETTING GAUGE

Gauge determines the proper clearance between brake lining and drum. Outside calipers transfer measurement to brake shoes. Inside calipers measure drum diameter. Locking nut holds gauge reading.



No. 930-10 CALIPER MOUNTING REMOVER / INSTALLER

This T-60 TORX® driver with 1/2" square drive fits disc brake caliper mounting bracket used on 1988 and later GM "W" body styles, including Buick Regal, Pontiac Grand Prix and Olds Cutlass.



No. 29 CLUTCH ALIGNING TOOL

With its six (6) two-step pilots, this tool handles all twelve (12) sizes necessary for properly aligning clutch disc and pressure plate with pilot bearing in flywheel. Accurately machined and carefully heat-treated for long service. Set includes following pilot sizes.

.561; .614; .668; .749; .812; .984;
.590; .624; .718; .787; .874; 1.180



No. 30 METRIC CLUTCH ALIGNING TOOL

Tool includes two (2) 2-step pilots for application on many import and domestic cars and trucks. Pilots plated with black oxide to avoid confusion with standard sizes. Includes the following pilot sizes: 17mm, 15.8mm, 15mm and 12mm.



No. 1199 to 1236 CLUTCH ALIGNING TOOLS

Injection molded of special long life plastic. Specially designed to duplicate the respective transmission input shaft to insure precise alignment.



No. 1199 Kit contains 33 of the most popular plastic clutch aligning tools. Metal chain groups Cal-Van No. 1200 to 1232 together. Perfect for the professional mechanic.

Vehicle	Year	Part No.	Vehicle	Year	Part No.	Vehicle	Year	Part No.	Vehicle	Year	Part No.
AMERICAN MOTORS			FORD MOTOR COMPANY			CELEBRITY, LUMINA,			MERCEDES		
4 CYL.			4 CYL.			PROTEGE			10 SPL		
151 ENG. (10 SPL)	80-83	1202	AEROSTAR & BRONCO II	86-90	1205	GRAND PRIX, J2000,	90	1205	26 SPL	81-88	1202
150 ENG. (14 SPL)	83-88	1203	ESCORT & EXP (F/W/D)	82-90	1207	CALAIS, CUTLASS,	89-ON	1205		84-UP	
PREMIER 4 & 6 CYL.	88-89	1220	FAIRMONT, GRANADA	78-83	1214	FIRENZA	90	1216	MITSUBISHI		
PREMIER V6	88-90	1220	LTD			ALL 4 CYL., 14 SPL, VEGA, 71-72	1215		STARION, MONTERO & PU		
EAGLE TALON	89-90	1220	MUSTANG (GER 4 SPD)	79-86	1214	CHEVY			CORDIA, TREDIA, GALANT, 82-88		
258 ENG. 6 CYL.	80-86	1202	MUSTANG (WARN 5 SPD)	83-88	1208	ALL 4 CYL, SUNBIRD,	82-90	1202	PRECIS & MIRAGE F/W/D		
JEEP 4 CYL., V8			MUSTANG (FORD 4 SPD)	74-83	1208	FIREBIRD, PHOENIX,			OPEL		
ALL 1" X 14 SPL	83-90	1203	MUSTANG (FORD 5 SPD)	78-88	1214	STARFIRE, TRANS AM,			ALL 1900CC		
ALL 1 1/8" X 10 SPL	81-89	1202	MUSTANG (FORD 5 SPD)	78-88	1208	R/W/D CAMARO			PORSCHE		
JEEP 6 CYL.			MUSTANG (FORD 5 SPD)	78-88	1208	CAMARO, 14 SPL	86-90	1215	911 ALL 24 SPL		
258 ENG. V8	79-85	1202	PINTO 1600-2300 (23 SPL)	71-80	1214	CHEVETTE DIESEL			911 ALL 20 SPL		
			PINTO 1600 ENG/TRANS.	71-74	1220				911 TURBO 23 SPL		
AUDI			4 & 6 CYL.			CHEVY & GMC PU & MINIVANS			924 2.0L ENG		
FOX & 4000/4 CYL.	73-84	1217	PROBE 22 SPL.	88-90	1213	S10 & S15 PU, MINIVANS	82-90	1215	924, 928, 930, 944		
CHECKER			PROBE V6 23 SPL	88-90	1205	4 & V6			SUBARU		
ALL CHEV. ENG.		1202	T-BIRD 2300 T/C	83-88	1208	S10 & S15 4.32	90	1202	1100, 1300, 1400 & 1600CC		
CHRYSLER PRODUCTS			T-BIRD 3.8L V/6	89-90	1208	LUV SER. 2-8	73-82	1222	1800CC 21 SPL		
DOMESTIC			TAURUS, TEMPO	84-89	1207				SUZUKI		
CHRYSLER, DODGE	81-90	1209	AEROSTAR V/6	89-90	1205				ALL AUTOS 18 SPL		
PLYMOUTH 4 CYL. F/W/D						GM AUTO, TRUCK, BUS			TOYOTA		
NON-TURBO 8 1/2" CL						ALL 1 1/8" X 10 SPL	38-90	1202	CARINO 2TC		
4 CYL. F/W/D T/C 9" CL.	84-90	1210				ALL 1 1/8" X 26 SPL	TO 90	1204	CORONA, CROWN & PU		
V/6 CYL. 9" CL., 18 SPL		1210				ALL 1 1/4" X 10 SPL .980" PILOT		1231	3RC 3RB, 2TC & 2M		
ALL 6 CYL. (23 SPL)	60-88	1211				ALL 1 3/8" X 10 SPL .980" PILOT		1232	CELICA, SUPRA, CORONA, 70-89		
8 CYL. ALL 23 SPL.	67-89	1211				ALL 1 1/2" X 10 SPL .980" PILOT		1233	CRESSIDA, CROWN & VAN		
IMPORTS						ALL 1 3/4" X 10 SPL 1.180" PILOT		1234	WAGON .8RC, 18RC, 20R, 2M,		
ARROW, COLT, CHALLENGER		1214				ALL 2" X 10 SPL 1.180" PILOT		1236	4M, 5MGE & 3YE ENG. R/W/D		
CONQUEST, SAPPORO,									TERCEL 21SPL		
RAIDER & P.U. 2600CC									MR2		
ENG. (23 SPL)									TRUCKS & BUSES MEDIUM & HEAVY		
ARROW, COLT, SAPPORO, 76-89	1220								DUTY		
CHALLENGER & P.U.									ALL 1 1/4" X 10 SPL .980" PILOT		
R/W/D 2000CC ENG									ALL 1 3/8" X 10 SPL .980" PILOT		
(20 SPL)									ALL 1 1/2" X 10 SPL .980" PILOT		
HORIZON, OMNI	81-85	1225							ALL 1 3/4" X 10 SPL 1.180" PILOT		
(VW TRANS)									ALL 1 3/4" X 10 SPL .980" PILOT		
HORIZON, OMNI, TC3,	81-90	1209							ALL 2" X 10 SPL 1.1 80" PILOT		
SHELBY, TURISMO,									VOLKSWAGEN		
DUSTER, 18SPL									ALL 12, 13, 15 & 1600CC		
ARROW, COLT, VISTA &	76-90	1229							ENG TYPE 1-2-3-4		
CHAMP F/W/D									DASHER, THING, FOX		
DAKOTA 4 & V6, 23 SPL	87-90	1211							QUANTUM DIESEL		
DODGE STEALTH, V6	90	1220							QUANTUM GAS		
DATSUN/NISSAN									JETTA, RABBIT, SCIROCO,		
GM31200 & B210 (18 SPL)	78-82	1213							GOLF, GTI		
310 (18 SPL)	82-83	1213							VANAGON DIESEL		
310 (24 SPL)	79-83	1212							VOLVO		
510, 520, 521, 610, 620,									240, 260 & 760 SER		
710, 720, 810 910, 200SX,									164 SER. 6 CYL		
240, 240SX, 260, 280Z,									79-89		
300ZX, MAXIMA, PATH									69-ON		
FINDER, VAN (1" X 24 SPL)									1216		
PULSAR, SENTRA &	83-89	1221							1202		
STANZA											
PL312, 410, 411 & 520		1224									
PU 1300cc											
FIAT											
124, 131 & BRAVA	69-83	1220									

No. 1237 CLUTCH COUPLING TOOL

For reaching and disconnecting the hydraulic clutch line from the slave cylinder, without damage to the clutch line or coupling. Fits Ford hydraulic clutches 1988 to date.



No. 489 GM TRANSMISSION SEAL REMOVER / INSTALLER

Removes and installs shift selector shaft seals quickly and easily without draining fluid.



No. 505 TRANSMISSION STOP OFF TOOL

Eliminates need to drain transmission fluid when repairing or replacing drive shaft U-joints, by plugging transmission drive shaft opening. Fits most cars, light trucks and vans.



No. 255 MUFFLER & TAILPIPE CUTTER

Alloy, heat-treated tool, with special patented "Curl-Cut" feature. Offset blade for positive, safe hammer blows. The non-flammable handle absorbs vibration.



No. 256 METAL & MUFFLER CUTTER

Patented quick curl cut blade. Offset to be held easily away from the tailpipe. A fine alloy heat-treated tool. Zinc plated. 1/2" (13mm) octagon stock, 7-1/2" (191mm) long.





No. 257, 258, 657 TAILPIPE EXPANDERS

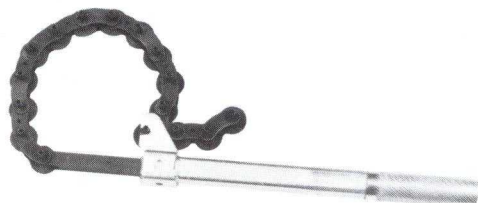
Designed to quickly and easily straighten out clamp dents in mufflers and tailpipes. Extremely rugged tools made of the toughest steel.

- No. 657 Small Capacity**
1-1/8" to 1-3/4" (29 - 44mm) I.D.
- No. 257 Medium Capacity**
1-1/2" to 2-7/16" (38 - 62mm) I.D.
- No. 258 Large Capacity**
2-1/8" to 3-7/16" (54 - 87mm) I.D.



No. 764 EXHAUST TAILPIPE CUTTER

Thirteen (13) large diameter (19mm) cutting wheels cut deeper into exhaust pipes than our No. 765. Does not leave burrs. Ideal for heavier walled European-type exhaust pipes. Cuts pipe from 3/4" to 3-1/4" (19 - 83mm) in diameter. Only 1/4 turn needed to cut. Works well in hard-to-reach places.



No. 765 TAILPIPE & TUBING CUTTER

Adjustable cutter for exhaust and tailpipes, and thin-wall copper and steel tubing. 16 cutter wheels, range 3/4" to 3" (19 - 76mm) diameter. Knurled handle adjusts cutting wheel chain. Instructions included.



No. 973 RETAINING RING PLIER

Special flattened tips hold and expand retaining rings to allow axle to be removed from CV joint assembly.

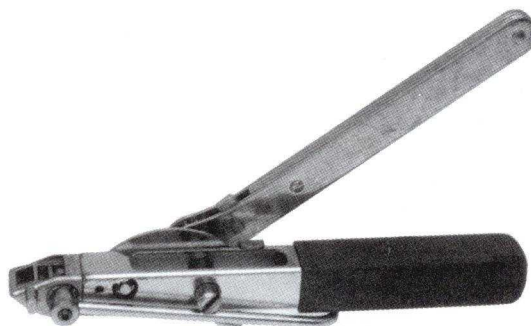


No. 974 CV DUST BOOT CLAMP PLIER

Special tips on pliers allow mechanic to grip clamp in many positions and to tighten clamp around the boot. Designed for notched clamps. 7-1/4" (184mm) OAL.

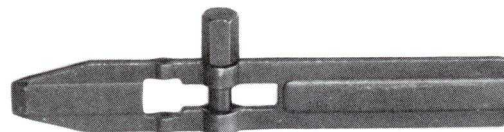
No. 965 "BAND-IT®" POK-IT II CLAMP TOOL

This heavy duty professional tool is used to form, install and cut Band-It® type clamps. Insert clamp into ratcheting mandrel and cut off excess with built in cutting arm. Instructions included.



No. 975 CV DUST BOOT CLAMP INSTALLER

This functional tool is used in conjunction with a 1-1/2" wrench to secure "Band-It" clamps to rubber, or plastic CV boots.



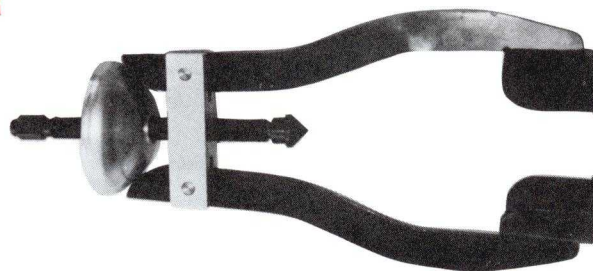
No. 976 PERMA-QUICK BOOT CLAMP INSTALLER

Designed to crimp and flatten the clamp on CV joint boot clamps. Also installs Perma quick clamps on fuel filter and cooling system hoses. Use on "Oetiker" type clamps.



No. 970 BOOT REMOVER / INSTALLER

Designed for removing and installing constant velocity joint boots and retaining rings. Fits all GM FWD vehicles using pre-formed retaining rings.



No. 978 FWD AXLE PULLER SET

Tool is used to remove the axle assembly on FWD cars. Set is complete with Axle Pulling Adapter and No. 499 Slide Hammer. 5/8" - 18 threads.

Also Available Individually:

No. 977 FWD Axle Puller Adapter

No. 499 Slide Hammer, 5/8" - 18 Threads, 5-1/4 lb.





No. 979 FORD OUTBOARD CV JOINT PULLER SET

This tool is used to remove and install the outboard axle shaft of CV Joint. This set includes the No. 499 Slide Hammer and the Ford outboard CV joint adapter. 5/8" - 18 threads. 22.5mm x 1.25mm pitch.

Also Available Individually:

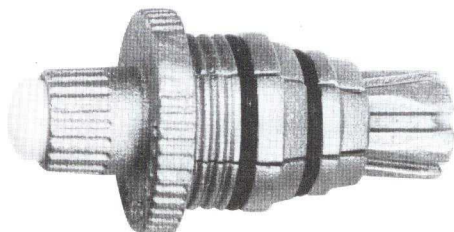
No. 980 Ford Outboard CV Joint Adapter

No. 499 Slide Hammer, 5/8" - 18 Threads, 5-1/4 lb.



No. 490 SEAL PULLER

Used to remove oil and grease seals. Two different size tips enables this tool to accommodate most applications.



No. 743 BEARING RACE INSTALLER

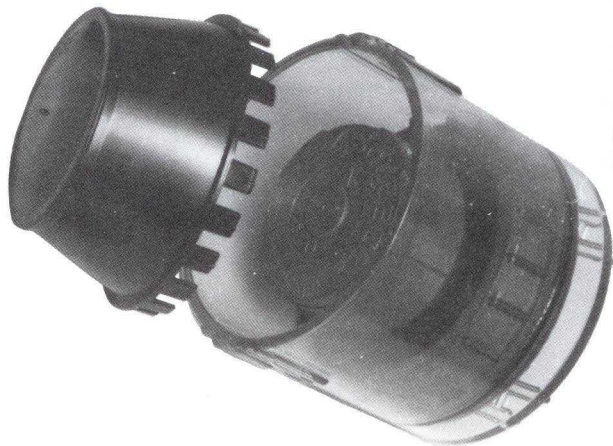
This tool is adjustable for all races from 1-9/16" to 2-7/16" (40 - 62mm). Impact resistant head delivers a positive dead blow drive and eliminates damage to race or housing.

Always wear safety goggles.



No. 842 4WD GREASE GUN ADAPTER

Designed for lubricating 4WD constant velocity joint fittings. Snap on to standard grease gun to give extension needed to reach fittings.



No. 852 HAND BEARING PACKER

No need for a grease gun or compressed air to use this bearing packer. Simply remove cap, place any cage type roller or ball bearing up to 2" (50mm) diameter into packer. Replace cap and push down to back bearing. When finished, replace dust cap. Nothing to clean. Can pack 50 or more bearings before refilling.

No. 320, 321 FWD BEARING LOCKNUT WRENCHES

- No. 320** Handles larger diameter nut used on 1982 and newer GM 1-Ton axles. 1/2" square drive allows the use of torque wrench for accurate adjusting.
- No. 321** Fits 1985 and new Ford F-250-350 truck rear wheel axles using the newly designed "Hi-Shear" rotating nut and on "DANA 80" rear axles for Ford Super Duty trucks.



No. 839, 840 FOUR WHEEL DRIVE BEARING LOCKNUT WRENCH

- No. 839 Four-Lug Wrench**
Removes spindle nuts on 1/2-Ton 4WD vehicles. Use with 1/2" square drive. Fits spindle nut on: Chevy, GMC 1/2 Ton, Blazer, Bronco, Ford 1/2 Ton and 3/4-Ton, spline type hub, IHC 1100 series, Dodge 1/2-Ton. Socket is 2-3/8" (60mm) O.D. 2" (51mm) I.D.
- No. 840 Six-Lug Wrench**
Removes spindle nuts on 4WD vehicles. Use with 1/2" square drive. Fits Ford 3/4-Ton 1978 to present, and GM 3/4-Ton and 1-Ton 1973 to present. Socket is 2-1/2" (63mm) O.D. 2-1/4" (57mm) I.D.



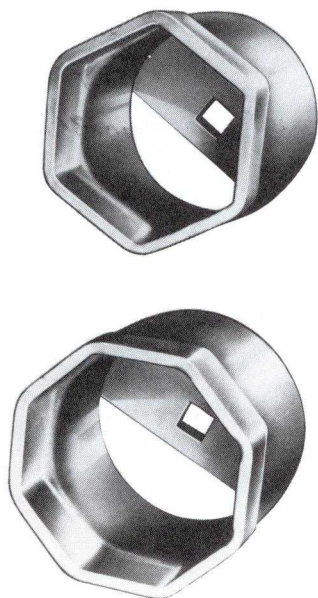
No. 968, 969, 971, 972 AXLE NUT SOCKETS

Designed to prevent slippage and distortion of axle nuts caused by various size axle lengths. 1/2" drive sockets.

- No. 971** 30mm fits GM "X", "J", and "A" body vehicles.
- No. 969** 32mm fits Honda, Chrysler vehicles.
- No. 968** 34mm
- No. 972** 36mm fits GM "E" body vehicles.



No. 310-319 TRUCK SPINDLE NUT **No. 322-328 WRENCHES**



Removes and installs 6 and 8 point truck spindle nuts. Made of high strength steel. Features 3/4" square drive for use with extension and torque wrench.

CAUTION: Not to be used with pneumatic power tools.

No. 310	2-3/32" Hex
No. 311	2-1/4" Hex
No. 312	2-9/16" Hex (Rounded)
No. 313	2-9/16" Hex
No. 314	3" Hex
No. 315	3-1/4" Octagon
No. 316	3-1/2" Hex
No. 317	4-1/8" Hex
No. 318	4-7/8" Octagon
No. 319	4" Hex
No. 322	2-1/2" Hex
No. 323	3-7/8" Octagon
No. 324	3-1/4" Hex
No. 325	3-13/16" Octagon
No. 326	2-5/8" Hex
No. 327	2-7/8" Hex
No. 328	2-3/4" Hex



No. 22 SHOCK ABSORBER LINK & TIE ROD END PULLER

This powerful wedging tool is manufactured from a single piece of drop-forged, alloy, heat-treated steel, and will stand up under hard usage. Zinc plated. Individually packaged. Length 16" (406mm). Jaw opening 21/32" (17mm).



No. 724 RACK & PINION LOCK PIN REMOVER

Removes tie rod inner socket retaining pins on Ford vehicles with rack and pinion power steering.

No. 190 BALL JOINT SEPARATOR

This tool separates stubborn parts with ease. Place tool between ball joint and steering knuckle, and give a few sharp blows with a hammer. Forged and heat treated. Length 11-7/8" (302mm). Opening 15/16" (24mm). Zinc plated.



No. 191 PITMAN ARM WEDGE

This sturdy tool removes pitman arms and similar operations with ease. Place wedge end of tool between parts to be removed and deliver a few sharp blows of a hammer. Zinc plated alloy steel will not mushroom or bend. Length 11-3/4" (298mm). Jaw opening 1-1/8" (29mm).



No. 186 PITMAN ARM PULLER

This redesigned heavy duty tool is designed to remove pitman arms from late model cars and light trucks. Yoke is forged from high grade alloy steel. Heat treated. 1-5/16" (33mm) opening, 2-1/2" (63mm) pull.



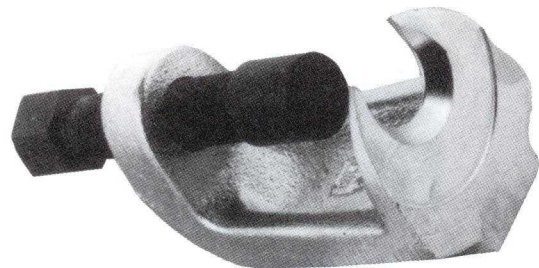
No. 194 TIE ROD END PULLER & PITMAN ARM PULLER

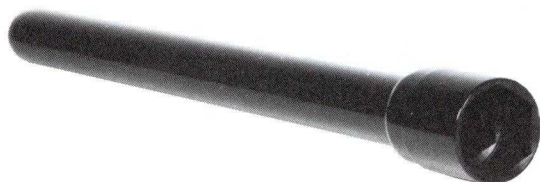
For the safe easy removal of pitman arm assembly from most cars and light trucks. Forged, heat-treated yoke with extra heavy center screw. 1-1/16" (27mm) opening, 1-3/4" (44mm) pull.



No. 182 UNIVERSAL TIE ROD END TOOL

Fits most cars including imports and many FWD cars. To use, simply insert tool between spindle arm and tie rod.





No. 21 INNER TIE ROD TOOL

Removes or installs the inner tie rod without removing the rack from vehicle. Double end fits two popular applications: 1-3/16" hex fits some Ford and Renault models; 1-15/16" (49mm) hex fits Ford, GM and Chrysler models.



No. 719, 720, 721 SAGINAW TIE ROD SOCKETS

These sockets remove and install inner tie rods on GM and Chrysler vehicles with saginaw-type rack and pinion steering. Use in conjunction with Cal-Van No. 21 Inner Tie Rod Tool. 1-7/8" (48mm).

No. 719 1-3/16" Socket

No. 720 1-5/16" Socket

No. 721 1-7/16" Socket



No. 200 BALL JOINT REMOVAL / INSTALLATION SET

This heavy duty tool is also a U-joint press and brake anchor pin pusher tool. Use on all cars and light trucks having press-fit type ball joints. You can remove and install ball joints without removing control arm from the vehicle. Complete with 5 piece receiver tubes and adapters.

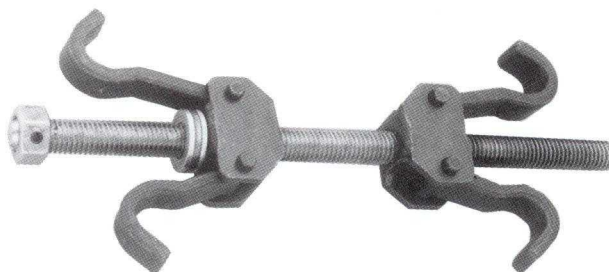


No. 203 4WD BALL JOINT SERVICE KIT

Use with No. 200 to remove and install upper and lower ball joints on 1967 to current 1/2-Ton and 3/4-Ton Ford, GM, Dodge, IHC & Jeep 4WD vehicles. Fits all with "DANA 44" front axles.

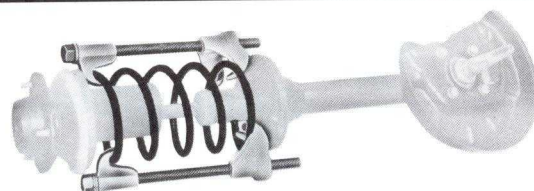
No. 510 COIL SPRING COMPRESSOR

This tool removes and installs coil springs quickly and safely. Compress coil springs on all passenger cars and pick-up trucks. Instructions included.



No. 512 MacPHERSON STRUT COIL SPRING TOOL

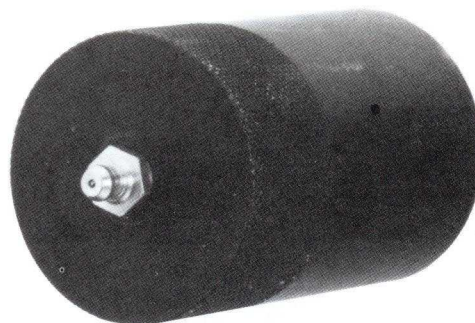
This tool is designed for use on all vehicles equipped with MacPherson Struts. Allows you to quickly compress the coil spring to replace shock absorber, spring sets, repair bent strut or strut tube and repair damaged spindle. Nut size 5/8" - 10. Instructions and safety hooks included.



No. 829, 830, 831 BEARING LUBRICATORS

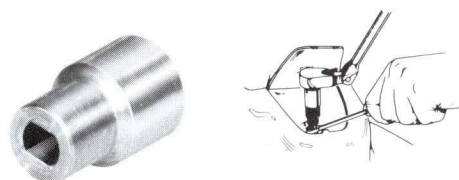
Lubricates spindle bearings on 4WD vehicles quickly and easily without having to disassemble the entire hub. Saves many dismantling hours, plus offers superior lube job on 4x4 vehicles.

- No. 829** Fits Ford Bronco II and Ranger 4x4 up to 1990° (metric thread).
- No. 830** Fits GM Series 10, 15, 20 and 25 thru 1991, Ford Series F-100, F-250 and Bronco Explorer up to 3800 lbs. Ranger after 1990°, Dodge Series W-100 thru W-250 up to 3500 lbs.
- No. 831** Fits GM Series 30 and 35 thru 1987, Ford Series F-250 up to 4500 lbs. Dodge Series W-200 thru W-350 up to 4500 lbs.



No. 808 GM SHOCK ABSORBER SOCKET

The "DOUBLE D" end of this special socket allows for a proper fit on the top of the shock absorber assembly used on some GM cars. 3/8" square drive.



No. 500 GM W-BODY STRUT SERVICE KIT

This six piece strut service set includes one (1) each of the following:



No. 502 Strut Retaining Tool

Tool holds the strut spring in place when the strut cartridge is removed from the assembly. Also prevents misalignment and damage while changing the strut cartridge. 1988 to current Grand Prix, Cutlass and Regal; 1990 to current Lumina.

No. 504 Jounce Bumper Wrench

Remove jounce bumper retainers while still in the vehicle without worry of damage. Allows direct access to the strut nut.

No. 506 Strut Cap Wrench

Remove and install on the vehicle the strut cap nut from the strut cartridge.

No. 507 Strut Extension Rod

Remove and install strut cartridge by screwing on to the strut shaft to guide the cartridge into place. Use with strut in vehicle without damage to the strut.

No. 509 Metric Strut Rod Socket

This 24mm socket permits tightening or loosening the top strut nut; essential for tightening the nut to the proper torque setting. 1/2" drive, open top socket for holding top of strut rod while torquing strut nut.

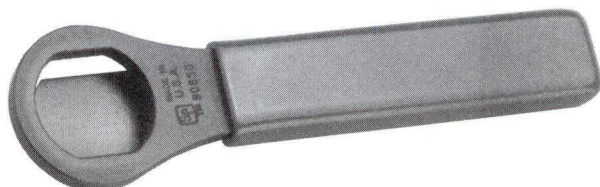
No. 930-9 T-50 TORX Bit Socket 3/8" Drive

Parts also available individually.



No. 809 STRUT CARTRIDGE SLOTTED SOCKET, FORD

Fits over the end of the strut to keep it from turning. Used for removing and installing struts on Mustangs and Capris 1979 to date.



No. 810 MONROE REAR SHOCK WRENCH

Specially designed double-D shaped end fits over the lower rear shock bolts on 1970 to date Ford vehicles with Monroe replacement shocks.

No. 812 FRONT SHOCK ABSORBER TOOL SET

This tool is designed to remove and install front shock absorbers on domestic cars. Includes two (2) sizes of oval piston-end sockets, and a convenient 3/8" square drive wrench. The 9/16" hex socket is used to loosen or tighten the hex nut on the shock, use 3/4" open-end wrench. Instructions included.



No. 41 SNAP IN TIRE VALVE INSTALLER

Steel constructed tool with deep threaded head for positive sealing of all snap-in type passenger car tire valve stems.



No. 43 TIRE VALVE & AIR CONDITIONING TOOL

This 2-in-1 tool is used to remove and install valve cores. Tapered end used to ream out damaged cores. Slotted end used to remove and / or replace valve core.



No. 45 TIRE VALVE STEM REPAIR TOOL

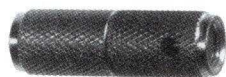
This useful and handy valve repair tool removes valve cores. Also repairs and rethreads inside and outside of valve stem.



No. 46 4-IN-1 VALVE STEM REPAIR TOOL

This 4-in-1 tool removes and replaces tire valve cores, and rethreads inside and outside of valve stem. E-Z out for backing out valve insides when shoulders are broken off. Made of high grade tempered steel.





No. 47 TIRE DEFLATOR & CORE REMOVER

A handy tire valve tool with dual uses, both as a tire deflator and core remover. Made of high grade steel.



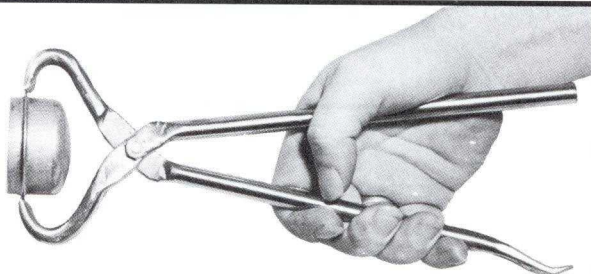
No. 127 WHEEL COVER TOOL

Designed to easily remove and replace wheel covers and hub caps. The tip is designed correctly to get behind the edge of the cover and a rubber head is mounted on the other side of the tool with the necessary weight for replacing wheel cover.



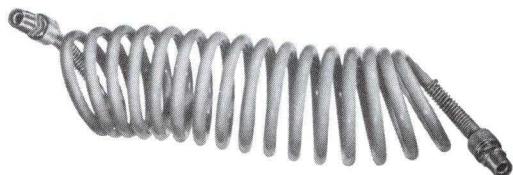
No. 254 WHEEL WEIGHT TOOL

For removing and installing wheel weights. This strong, heat-treated tool is balanced and heavy enough to swing like a hammer. Designed for hard usage. Points are sharp, and well tempered. Will not pinch your hand. Zinc plated.



No. 282 GREASE / DUST CAP REMOVER PLIER

The narrow jaws of this powerful alloy steel tool slip behind the tightly seated cap. Wedge-shaped jaws force the cap away from the hub. Long handle provides ample leverage. Spade end of one (1) handle quickly pries off wheel cover and trim ring. 11" (280mm) OAL. 3-3/16" (81mm) maximum jaw opening. Zinc plated.



No. 381 RECOIL AIR HOSE

This 25-foot yellow flex hose is resistant to abrasions, solvents, oil, chemicals, paint. Hose recoils to original self-storing position. Both ends have all brass fittings that swivel 360°. Spring guards near ends prevent crimping to prolong hose life. Hose I.D. 1/4", threads on both ends are 1/4"- 18 MPT. Maximum working pressure - 200 psi. Compact length 12" (305mm).

No. 40 PENCIL TIRE GAUGE

This quality passenger car tire gauge assures accuracy, long life and trouble free performance. Calibrated on all four (4) sides from 10 to 50 lbs. in 1 lb. units. 5-1/2" (140mm) OAL.



No. 399 DUAL FOOT POCKET TIRE GAUGE

This heavy-duty air gauge will insure long, trouble-free service. White nylon indicator bar has contrasting color PSI markings on all four sides. Calibrated from 20 to 120 lbs. in 2 lb. units. Pencil clip on barrel. 6" (153mm) OAL.



No. 400 DUAL FOOT TRUCK HIGH PRESSURE GAUGE

This heavy duty air gauge is designed for long, trouble-free service in all climates and weather conditions. Indicator bar is white nylon with contrasting bold gauge markings on two (2) sides. Calibrated from 10 to 150 lbs. in 2 lbs. units. 12" (305mm) OAL.



No. 401 DUAL FOOT AIR CHUCK

Direct 1/4" air line chuck with shut off valve built in chuck head.



No. 402 SINGLE FACE AIR CHUCK

Direct 1/4" air line chuck with shut off valve built in chuck head.



No. 402-1 Chuck repair kit.

No. 404 SAFETY BLOW GUN

This tool is designed with a pressure reducer valve to limit air pressure at the nozzle to less than 30 psi, thus conforming to Title 41, Walsh-Healy Rules and regulations. For use on initial line pressures of 80 to 150 psi. Reduces nozzle pressures between 23 and 30 psi. This tool conforms to (OSHA) Occupational Safety and Health Standards.





No. 405 BLOW GUN

This trigger controlled pressure gun releases air from a whisper to full line pressure. Spring loaded control valve with no cut-off. No restrictions. Highest quality, zinc plated for long life. Equipped with 4" (102mm) nozzle for carburetor, cylinders, brakes and other similar work. 7" (178mm) OAL.

NOTE: This blow gun is not equipped with a safety by-pass and therefore must be used on air lines which have pressure settings not exceeding 30 psi maximum to conform with O.S.H.A. standards.



No. 411 RUBBER TIPPED BLOW GUN

Non-restricted blow gun comes with a rubber tip which is useful in blowing out tubing, pipes, etc.

NOTE: This blow gun is not equipped with a safety by-pass and therefore must be used on air lines which have pressure settings not exceeding 30 psi maximum to conform with O.S.H.A. standards.



No. 498 FLANGE TYPE AXLE PULLER

This tool can be used both as a regular wheel or hub puller as well as a flange-type puller. The bolt circle range is 4-1/2" to 5-1/2" (114 - 140mm) which covers all major cars and small trucks with flange type axles. The four (4) slots in the adapter allow this tool to be used on either 4, 5, or 6 bolt or stud designs. Has extra heavy 5 1/4 lb. sliding hammer. Shaft threads 5/8" - 18.

No. 498-01 Flange only for No. 499

No. 499 Slide Hammer only, 5/8" - 18 Threads, 5-1/4 lb.



No. 740 AUTOMATIC, PNEUMATIC TOOL OILER

This "in-line" oiler, oils air tool with each use and ends air tool burnout. Oiler also ends air line contamination, stops rust in air tool and increases torque up to 25%. Constructed of high quality aircraft aluminum stem, machined to 1/4" NPT. Holds 3-4 days supply of oil in high-impact plastic reservoir. For use on all 3/8" and 1/2" pneumatic tools.



No. 34 DOOR PANEL REMOVER

Designed to speed door panel service on most vehicles, while helping to reduce chances of the plastic barbed fastener being pulled through the panel. Simply slip the specially slotted, wedge shaped tool between the panel and door frame with plastic fastener located in the slot. A slight rocking motion will quickly and easily loosen the fastener.



No. 35 DOOR HANDLE CLIP REMOVER

Designed to work on all Ford and GM cars and trucks. The long, thin, strong jaws make this an efficient and economical tool. Zinc plated. 7-1/2" (191mm) OAL.



No. 37 DOOR HANDLE CLIP REMOVER

Our most popular door handle clip remover is designed with extra length and offset body for use on most cars. Will not damage upholstery. Fits most passenger cars and truck handles. Black oxide finish.



No. 39 WINDOW MOLDING REMOVER

Removes window molding clips on domestic cars and trucks. Lay tool flat on glass and find clips under molding. Rotate tool to release clips. Wear approved safety goggles to prevent eye injury.

No. 53 CAR DOOR UPHOLSTERY REMOVER

Removes upholstery clips in seconds. This perfectly balanced alloy forged tool is attached to a fire resistant plastic handle, with a bright plated blade. 8" (203mm) OAL.



No. 128 FORD HEADLIGHT ADJUSTING TOOL

Designed to adjust aerodynamic headlights on Ford, Lincoln and Mercury cars and trucks. 4mm socket with 1/4" square drive. Use with 1/4" square drive set for maximum versatility.



No. 139 HEADLIGHT ADJUSTING SPRING HOOK

Designed for removing and installing hard-to-reach headlight adjusting springs. Made from heat treated alloy steel. 6" (152mm) OAL.



Nos. 353 - 355 PUTTY KNIVES

This assortment of putty knives feature heat treated and tempered blades. Grease resistant plastic handles are designed with hole for convenient hanging.

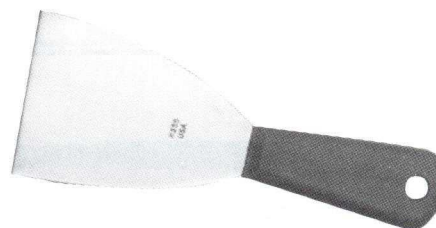
No. 353 Semi-Flex Knife

This semi-flex blade is an excellent utility putty knife and scraper. 1-1/4" (32mm) wide blade. 7" (178mm) OAL.



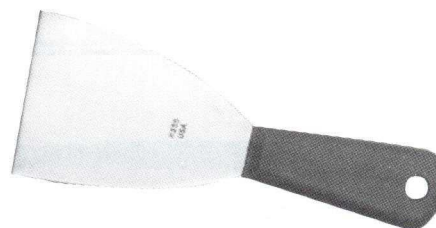
No. 354 Chisel Scraper Knife

This heavy duty blade is designed with a chisel edge. 1-1/4" (32mm) wide blade. 7" (178mm) OAL.



No. 355 Full-Flex Knife

This full flex blade is ideal for applying body filler. 3" (76mm) wide blade. 8" (203mm) OAL.





No. 708, 710 POCKET SCRAPER

Convenient, slim-line pocket size scraper is only 3/8" (9mm) thick x 1-1/2" (38mm) wide x 5" (127mm) long. Blade locks in three (3) positions and closes in locked position for safe storage. 8" (203mm) OAL.

No. 710 Pocket Scraper with Razor Blades

Effectively removes inspection stickers from auto windshields. A great household tool for removing paint and varnish from glass. Includes five (5) standard, single-edge razor blades. Replacement blades available.

No. 708 Pocket Scraper with Polyguard Blades

These blades are designed not to scratch the soft, plastic surface of windows when removing inspection stickers and other adhesives. Includes three (3) 1-9/16" wide Polyguard blades. Replacement blades available.



Available Scraper Replacement Blades:

No. 709 Polyguard Blades

Includes five (5) 1-9/16" wide blades per skin-pack card.

No. 710-1 Razor Blades

Standard single-edge blades. Packaged five (5) blades per box. Two (2) boxes per skin-pack card.

No. 711 Razor Blades - 100 Pack

Standard single-edge blades. First quality, high carbon Swedish steel. Made especially for industrial uses, including paint, upholstery and body shops. Fits scrapers and other single-edge blade holders. Box of 100.



No. 717 EXTENDED SCRAPER

This 12" (305mm) long, extended reach inspection sticker remover is a must for new long sloped windshields. Includes one (1) Polyguard blade and two (2) standard single-edge blades inside storage handle. Replacement blades available - see above.



No. 349 ALL PURPOSE AWL & SCRIBING TOOL

Ideal for scribing, aligning work, punching holes in light metal and for tire repair. Special heat treated tapered shank 3/16" x 3" (5mm x 76mm) set in metal ferrel and pressed into plastic handle.

No. 351 HEAVY DUTY SCRATCH AWL & SCRIBE

Heavy duty tool for aligning work, scribing and punching. Special heat treated shank 1/4" x 4-3/4" (6mm x 121mm) long set in metal ferrel pressed into plastic handle.



No. 841 UTILITY HOLE PUNCH

All steel punch with heat treated 5" (127mm) blade tapered from 1/4" (6mm) to point. Ideal for use in body shop to punch holes in dents and creases when repairing body panels. May also be used as a scribe, awl, center punch, drift pin, etc. Plated. Hex handle 9/16" x 3" (14mm x 76mm).



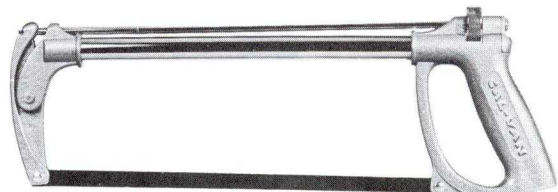
No. 406 UTILITY HACKSAW

Can be used where regular hacksaws will not fit. Cuts in tight places, flush and straight. Use any hacksaw blade even broken ones. Lightweight heavy duty, cyclocac, finger contoured comfort grip handle. Complete with quality alloy steel blade.



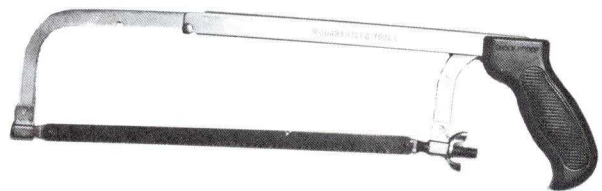
No. 407 PREMIUM HACKSAW

Our premium hacksaw out-performs all others and tackles jobs many other hacksaws can not. Tubular frame contains storage for additional blades. Compact. Mounts 12" (305mm) blade. 16" (406mm) OAL.



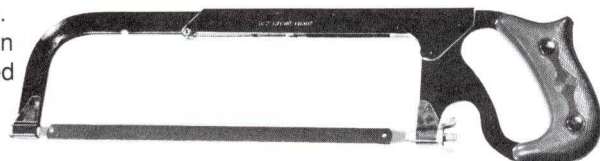
No. 409 ECONOMY HACKSAW

Handy adjustable hacksaw frame is ideal for general use. Adjustable frame locks in either 8" (203mm), 10" (254mm), and 12" (305mm) blades. Shipped with one (1) 10" (254mm) blade.



No. 410 HEAVY DUTY HACKSAW

Adjustable hacksaw, polished and plated, frame from 3/16" steel. Pistol grip handle of durable red plastic. Adjustable frame locks in either 8" (203mm), 10" (254mm) or 12" (305mm) blades. Shipped with one (1) 10" (254mm) blade.





No. 697 ALIGNING PRYBAR

Can be used for countless prying, positioning and aligning jobs with long taper end. The other end is flat with slight curve to provide more leverage for prying. Made from 5/8" hex stock. Black oxide finish. 16" (406mm) OAL.



No. 699 ROLLING HEAD PRYBAR

16" Prybar with rolling head. Provides tremendous leverage in limited clearance areas, such as behind gears, etc. Handle end has long pointed taper, ideal for aligning holes. Forged from alloy steel. Made from 1/2" hex stock. Black oxide finish. 16" (406mm) OAL.



No. 495 BODY DENT PULLER & OIL / TRANSMISSION SEAL REMOVER

Punch or drill a hole in the deepest part of the dent, and insert the self-threading screw. A few light raps with the sliding hammer, and you can return the metal to its original position. Shaft has 1/2" - 20 threads with locking device to keep screw from turning. This tool supplied with a hardened right angle hook that threads into the nose bolt of the slide hammer. This hook is used to remove oil seals by inserting hook behind seal and using slide hammer to drive seal out.

Available Adapters for No. 495:

No. 491 Hook Adapter

Ideal to pull dents in tight places, such as, headlights and raindrains. Also, to remove small gears, bushings, cups, and seals. Forged from high alloy steel and heat-treated to withstand the impact. 1/2" x 20 shaft threads. 4-1/2" (114mm) OAL.

No. 494 Swivel Adapter

Allows dents to be pulled in areas where straight away pull is impossible. Inside panels, under fenders, body panels, etc. 1/2" x 20 shaft threads.

No. 596 Dent Puller Adapter

Use with Spike Screw, No. 598. 1/2" - 20 shaft thread, 3/8" - 24 screw thread.

No. 597 Dent Puller Adapter

Use with Magic Tip Screw, No. 599. 1/2" x 20 shaft thread; 1/2" - 13 screw thread.

No. 598 Dent Puller Spike Screw

This metal piercing spike screw eliminates pre-drilling. Made of alloy steel, 3" (76mm) OAL. 3/8" - 24 fine thread. Use with Adapter No. 596.

No. 599 Magic Tip Screw

This metal piercing spike screw eliminates hole distortion. Made of tough alloy steel. 1/2" - 13 coarse thread. 2-1/2" (64mm) OAL. Use with Adapter No. 597.

No. 595 BODY DENT PULLER

Spike Screw Body Dent Puller. Simply punch hole with self piercing spike. Screw spike into hole, use slide hammer action to remove dent, one continuous operation. 1/2"- 20 shaft thread. Includes the following adapters:

No. 596 Dent Puller Adapter

Use with Spike Screw, No. 598. 1/2"- 20 shaft thread, 3/8" - 24 screw thread.

No. 597 Dent Puller Adapter

Use with Magic Tip Screw, No. 599. 1/2" x 20 shaft thread; 1/2"- 13 screw thread.

No. 598 Dent Puller Spike Screw

This metal piercing spike screw eliminates any pre-drilling. Taper on full length of screw lets you grip metal again and again on those tough jobs. Made of alloy steel, 3" (76mm) OAL. 3/8" - 24 fine thread. Use with Adapter No. 596 on Dent Pullers Nos. 495 and 595.

No. 599 Magic Tip Screw

This metal piercing spike screw eliminates hole distortion by giving positive holding power. Made of tough alloy steel. 1/2" - 13 coarse thread. 2-1/2" (64mm) OAL. Use with Adapter No. 597 on Dent Pullers Nos. 495 and 595.



No. 174, 718 CRIMPED WIRE WHEEL BRUSHES

These 6" diameter, standard duty wheel brushes are made from high tensile, .014 size, oil tempered wire that are heavy filled and accurately trimmed to assure even buffing and cleaning. Complete with two (2) pairs of metal adapters for 3/8" - 1/2" or 5/8" - 1/2" arbor holes. Maximum free speed 4000 RPM.

No. 174 Standard Duty Crimped Wire Wheel Brush

Face width 1", 2 sections. 6" diameter. Max free speed 4000 RPM.

No. 718 Standard Duty Crimped Wire Wheel Brush

Face width 1/2", 1 section. 6" diameter. Max free speed 4000 RPM.



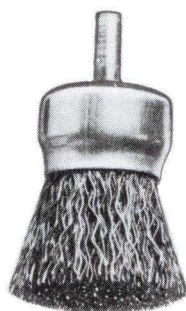
Wear approved eye protection to prevent eye injury.



No. 173 WIRE CUP BRUSH

Use with 1/4" electric drills or flexible shaft equipment to remove metal burrs, scratches and tool marks. Removes rust, carbon, scale, stains, dirt, paint, varnish. Polishes brass, copper, steel. 2-1/2" (64mm) diameter. Carbon steel wire .014". Drill shank 1/4". Maximum safe speed 5000 RPM.

Wear approved eye protection to prevent eye injury.



No. 176 STEM MOUNTED END BRUSH

Use with 1/4" electric drills or flexible shaft equipment to remove carbon deposits on piston heads, cylinders and valve seats. Diameter 1" (25mm). Crimped steel wire .020. Steel shank 1/4". Maximum safe speed 22,000 RPM.

Wear approved eye protection to prevent eye injury.



No. 177 STEM MOUNTED KNOT END BRUSH

For removal of heavy carbon deposit, heavy scale and corrosion. Twist knot construction for severe applications. Diameter 1" (25mm). Crimped steel wire .020". Maximum safe speed 22,000 RPM.

Wear approved eye protection to prevent eye injury.



No. 844 GRINDING POINT (STONE)

The most popular size needed for grinding, polishing and deburring. "Stone" is made of aluminum oxide bonded to a 1/4" diameter steel shank. 1-1/2" (38mm) long. Can be used at speeds up to 34,500 RPM. Stone 1" long x 1" diameter (25mm x 25mm).

Wear approved eye protection to prevent eye injury.

No. 178 HAND SCRATCH BRUSH

Economy scratch brush for cleaning carbon, paint and dirt from metal surfaces. 14" (356mm) OAL. 6" (152mm) brush length. 3 x 19 rows of bristles 1-1/4" (32mm) long.



No. 179 DELUXE HAND SCRATCH BRUSH

For heavy duty cleaning of metal and masonry surfaces. 14" (356mm) OAL, 6" (152mm) brush length. 4 x 19 rows of bristles. 1-1/4" (32mm) long.



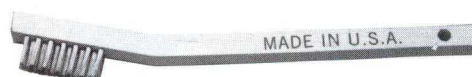
No. 181 SHOE HANDLE SCRATCH BRUSH

Shoe handle scratch brush. 10" (254mm) OAL. 5-1/2" (140mm) brush length. 4 x 16 rows of bristles 1-1/4" (32mm) long.



No. 180 MINIATURE SCRATCH BRUSH

Mini scratch brush easily cleans small parts or areas. 3 x 7 rows of 1/2" long stainless steel bristles. Brush length 1-7/16" . 7-3/4" OAL. 2 brushes per pack.



No. 264 NYLON PARTS CLEANING BRUSH

Polypropylene bristled brush for use in oil, gasoline, turpentine and other cleaning solvents. 2-1/2" (64mm) bristles are chisel trimmed and mounted in seamless steel ferrel and securely fastened to 10" (254mm) durable plastic handle. Individually skin packed.





No. 265 PARTS CLEANING BRUSH

Taper cut 3" (76mm) mixed fiber bristles vulcanized in rubber. Secured to 10" (254mm) durable plastic handle. For use in gasoline only. Twelve (12) per box.



No. 266 PARTS CLEANING BRUSH

Taper cut 2-1/2" (64mm) pure bristles vulcanized in rubber and metal banded to 10" (254mm) durable plastic handle. May be used in all parts cleaning solvents.



No. 592 SUCTION CUP DENT PULLER

Lift glass, sheet metal, sheet plastic, and windshields. Pull out panel dents easily. Finger tip release. One piece, molded construction. 4-1/2" (114mm) diameter.



No. 33 RUBBER SANDING BLOCK

For all types of sanding purposes. Molded to conform to your hand to reduce fatigue. Fold back the upper lip on each end to reveal three (3) spikes, which securely hold the sandpaper in place while in use. 2-1/2" (64mm) wide, 5" (127mm) OAL.



No. 832 SAFETY GOGGLES

Flexible coverall eye shields molded from soft form fitting vinyl which provides highest degree of protection and wearing comfort. Weigh only 2 oz. and are large enough to fit over any pair of Rx glasses. Perforated frame for proper ventilation. Clear lens.



No. 833 SAFETY GLASSES

These glasses are designed with high impact, optically clear polycarbonate lenses which are hard-coated inside and out to resist scratching and abrasion. Universal nose bridge and temples provide self-fitting comfort. Modified browguard increases overhead protection. Integral sideshields. Clear colored lenses with Blue Smoke colored frames. Meets ANSI Z87.1 standard.

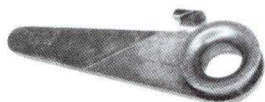
Tube Benders • Tube Cutters • Metric Double Flaring Tool • Tube Flaring Tool With Compressor Attachment • Bushing Driver Set • Snap Ring Plier Set • Lock Ring Plier • Internal/External Snap Ring Plier • Snap Ring Plier Kit • Pre-Packed Snap Ring Assortment • Valve & Clutch Spring Tester • Micro-Adjustable "Clicker" Torque Wrench • Dual Scale Beam Torque Wrenches • Bi-Metal Thermometer • Inspection Mirrors • Magnet Pick-Up • Telescoping Magnet Pick-Up • Telescoping Pocket Magnet • Flexible Magnet Pick-Up • Flexible Mechanical Finger • Hook Scribe • Scribe Carbide Point • Carbide Scribe With Magnetic Pick-Up • Pick-It Set • Heavy Duty Gasket Scraper • Pry Bars • Power Scissors • Stainless Steel Rule • Stainless Steel Caliper • Cotter Pin Puller • Carborundum® Stone • Utility Knife • Jack Knife • Barlow-Style Jack Knife • Multi-Purpose Spray Nozzle • Nut Splitting Tool • High Speed Twist Drills • Brass Hammers • Soft Bronze Hammer • Non-Sparking Brass Punches • Taper Reamers • Stamps • Adjustable "C" Clamp • Safety Goggles • Safety Glasses • Fender Cover • Hood, Hatch and Trunk Lid Holder • Socket Holder Set • Bit Holder • Wrench Holder • "Nu-Thread" Files • Universal Thread File • Rethreading Die Kits • Metric Rethreading Die Set • Screw Starters • 4-in-1 Reversible TORX® Screwdriver • TORX® Screwdriver Set • 4-Way Offset Screwdriver • Magnetic Screwdriver • Impact Wrench Kit • Folding TORX® Key Set • TORX® Key Set • Fractional Hex Key Wrenches • Metric Hex Key Wrench Set • Pocket Hex Key Set • Sae Hex Key Assortment • Metric Key Assortment • 1/4" TORX® Insert Bits • 5/16" TORX® Insert Bits • Tamper Resistant TORX® Bit Set • Tamper Resistant TORX® Driver Set • TORX® Bit Set • TORX® Sockets For Bolts • Serrated Wrench Set • Metric Hexagon Internal Wrench Bit Set • Nut Driver Set • Wedge-Pruf Extractor Set • Tapered Fluted Extractor Set • Screw Extractor Set • Flare Nut Wrench Set • Socket "Wobbler" Extension • Ratcheting Box Wrench Sets • Steering Wheel Puller • Steering Wheel Lock Plate Remover • Forged Harmonic Balancer Puller • Timing Gear Puller • Pulley Puller • Slide Hammer Puller Set • Flange Type Axle Puller • Universal Pilot Bearing Puller • Bearing Puller • Universal Wheel Puller • Flange Type Axle & Front Wheel Hub Puller • Stud Remover & Installer • Bearing Splitters • Straight Line Puller • 2-Jaw Pullers • 3-Jaw Pullers • Pitman Arm Puller • Battery Terminal & Bearing Puller • Tie Rod End & Pitman Arm Puller • Tube Benders • Tube Cutters • Metric Double Flaring Tool • Tube Flaring Tool With Compressor Attachment • Bushing Driver Set • Snap Ring Plier Set • Lock Ring Plier • Internal/External Snap Ring Plier • Snap Ring Plier Kit • Pre-Packed Snap Ring Assortment • Valve & Clutch Spring Tester • Micro-Adjustable "Clicker" Torque Wrench • Dual Scale Beam Torque Wrenches • Bi-Metal Thermometer • Inspection Mirrors • Magnet Pick-Up • Tele-

GENERAL



No. 152 TUBE BENDER

Bends tubing up to 360° with no kinks. Use on tubing up to 5/16" (8mm) diameter. Works well on copper, brass, Bundy weld tubing, brake lines, etc. 5" (127mm) OAL.



No. 154 HEAVY DUTY TUBE BENDER

This heavy duty bender takes thin wall tubing from 1/8" to 1/2" (3-13mm) diameter and bends it up to 360°. For use in automotive, plumbing, heating, refrigeration and marine applications. Die cast from durable non-corroding zinc. 9-1/4" (235mm) OAL.



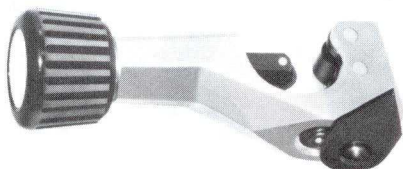
No. 160 TUBE BENDER

This heavy duty tube bender has four grooves to bend the most popular tubing sizes including: 3/16" (5mm), 1/4" (6mm), 5/16" (8mm) and 3/8" (9mm) O.D. Features heavy duty mandrel and handle.



No. 151 MIDGET TUBE CUTTER

This tool is designed to cut copper tubing 1/8" to 5/8" (2 - 16mm) O.D. in close quarters. Cutter will turn on 1-5/8" (41mm) radius.



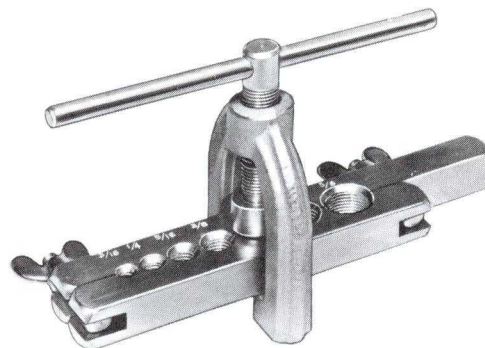
No. 761 TUBE CUTTER

This tool is designed with wide rollers to prevent cutter from spiraling. Cuts to within 1/4" (6mm) of tube end. Cutter is complete with extra cutter wheel located under pivoting reamer blade. 1/8" (3mm) capacity. 1-1/8" (29mm) O.D.

No. 761-1 Replacement Cutter Wheel for No. 761.

No. 162 TUBE FLARING TOOL WITH COMPRESSOR ATTACHMENT

This hinged type flaring tool handles all popular sizes of tubing. The yoke type compressor is made of a steel, drop forging, and easily slips over the die block. The hardened floating cone will give an even accurate automotive 45° flare and taper that will insure a tight joint. The sliding "T"-handle is 5-1/2" (140mm) long for added leverage. Includes two (2) large wing nuts and seven (7) thread flaring dies: 3/16", 1/4", 5/16", 3/8", 7/16", 1/2", 5/8". Dies are zinc plated and individually packaged.



No. 153 METRIC DOUBLE FLARING TOOL

This 45° double flaring tool is designed for metric size tubing and will withstand pressure that is necessary to double flare tubing up to 1mm wall thickness. Tool can also be used as a single flaring tool. Includes the most used sizes: 4.15mm, 5mm, 6mm, 8mm and 10mm. Packed in a heavy duty polypropylene box.



No. 163 DOUBLE FLARING TOOL

This 2-in-1 flaring tool set is designed to withstand the high pressures necessary to double flare soft steel tubing, as well as, single flare soft copper, aluminum and brass tubing. Automotive 45°. Set includes drop forged compressor yoke, five (5) double flare adapters and threaded die holding bar with size capacity 3/16", 1/4", 5/16", 3/8", and 1/2". Packed in a heavy duty polypropylene box.



No. 744 BUSHING DRIVER SET

This set will remove and replace bushings on passenger cars, busses, trucks, tractors, farm road and construction equipment. Sixteen (16) sizes ranging from 3/8" to 1-1/4" (9 - 32mm) makes this a very versatile set. All adapters and drivers are clearly marked for size, and color coded for instant identification. Plastic case complete with location of parts clearly shown in lid.



No. 147 SNAP RING PLIER SET

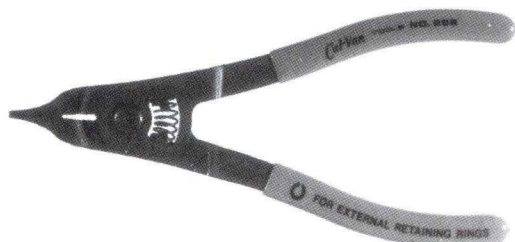
This economy plier set includes No. 148, an Internal Snap Ring Plier, and No. 149, an External Snap Ring Plier, plus four (4) sets of interchangeable tips. Plastic handles insure a comfortable, non-slip grip. Hexagonal points are automatically aligned and cannot twist. Includes two (2) each of the following inter-changeable tips*: 90° Angle Tips, .047 Diameter; 45° Angle Tips, .047 Diameter; 15° Angle Tips, .039 Diameter; 15° Angle Tips, .074 Diameter. Pliers also available individually. Set includes:

No. 148 Internal Snap Ring Plier with tips*.

No. 149 External Snap Ring Plier with tips*.

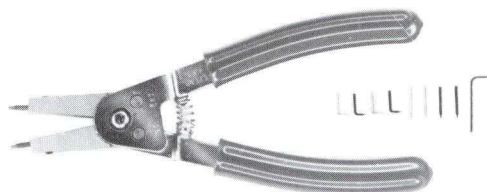
Available Replacement Tips:

No. 148-5 Complete Tip Replacement Set for No. 147.



No. 268 LOCK RING PLIER

Spreads snap rings found on brakes, pedal shafts, transmissions, clutch shafts, machine tools, and some piston rings. Jaws are scored on outside for secure gripping. Drop forged alloy steel, polished jaws, nickel-chrome plated. 3/4" (19mm) jaw opening. 8-1/4" (210mm) OAL. POINTS ARE NOT GUARANTEED.



No. 521 HEAVY DUTY INTERNAL / EXTERNAL SNAP RING PLIER

At a push of the button, this heavy duty 2-in-1 tool converts into an internal or external snap ring plier. External range: 1/4" to 2" (7 - 48mm). Internal range: 3/8" to 2" (10 - 48mm). 7-3/4" (197mm) OAL, without tips. Includes five (5) pairs of steel alloy tips*. Straight tip sizes: .036" (.9mm), .047" (1.2mm), .070" (1.8mm). Bent 90° tip sizes: .036" (.9mm), .047" (1.2mm).

No. 148-5 Tip Replacement Set

**Snap Ring Pliers are covered under Cal-Van's Full Tool Life Warranty. Tips are not warranted - replacement tips may be ordered. See Price List.*

No. 522 INTERNAL / EXTERNAL SNAP RING PLIER

Fits small internal and external rings. Internal range: 1/4" to 1" (8 - 26mm) and external range: 1/8" to 1" (3mm - 26mm). Features adjustable stop, spring return, push button conversion to/from internal or external positions. 6-1/4" (159mm) OAL with tips. Includes five (5) pairs of steel alloy tips*: Straight tip sizes: .023" (.6mm), .036" (.9mm), .047" (1.2mm); Bent 90° tip sizes: .036" (.9mm), .047" (1.2mm).



No. 148-5 Tip Replacement Set

No. 523 HEAVY DUTY INTERNAL / EXTERNAL SNAP RING PLIER

Fits large internal and external rings. Internal range: 1-13/16" to 4" (31 - 100mm). External range: 1-1/2" to 4" (31 - 100mm). Features automatic ratchet lock, heavy duty cushion grips, spring return plier handles and push button conversion to/from internal or external positions. 10-1/4" (260mm) OAL with tips. Includes six (6) pairs of steel alloy tips*.

Bent 15° tip sizes: .090" (2.3mm), .108" (2.7mm), .120" (3.0mm);
Bent 90° tip sizes: .090" (2.3mm), .180" (2.7mm), .120" (3.0mm).



No. 148-5 Tip Replacement Set

No. 524 SNAP RING PLIER KIT

Designed for the professional mechanic. Plastic carrying case contains sixteen (16) sets of steel alloy tips*. Kit includes one (1) each of Nos. 521, 522, 523 Snap Ring Pliers - see pages 88 / 89 for descriptions. Pliers also available individually. Set includes:

- No. 521** Internal / External Snap Ring Plier with 5 pairs of tips*
- No. 522** Internal / External Snap Ring Plier with 5 pairs of tips*
- No. 523** Heavy Duty Snap ring plier with 6 pairs of tips*



*Snap Ring Pliers are covered under Cal-Van's Full Tool Life Warranty. Tips are not warranted - replacement tips may be ordered. See Price List.

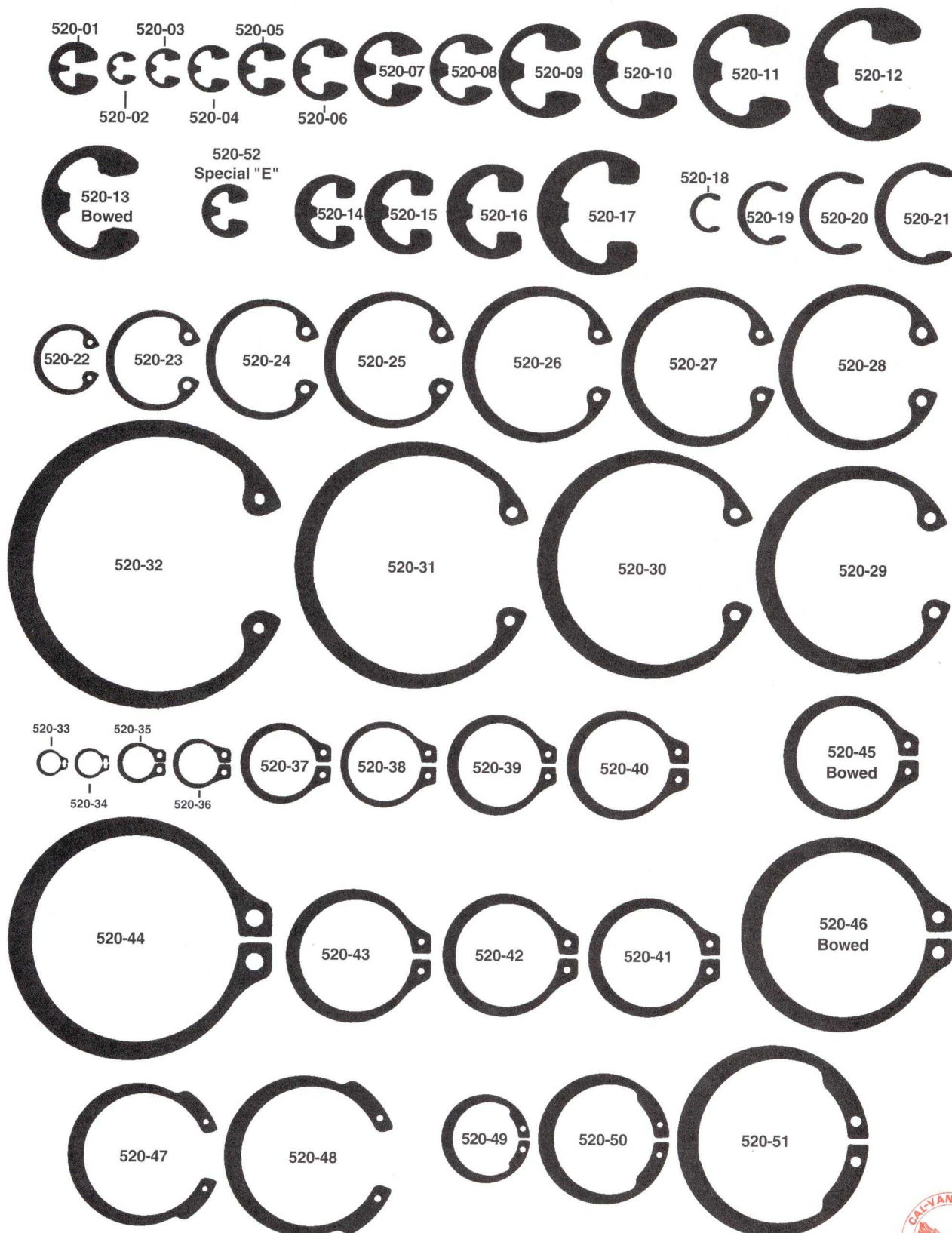
GENERAL



No. 520 PRE-PACKED SNAP RING ASSORTMENT

A popular pre-packed assortment of 52 different internal and external snap rings. Refer to the following page for exact specifications. Includes one (1) each No. 520-01 thru 520-52. Packaged a convenient plastic container.

No. 520-01 to 520-52 Individual Snap Rings - Customize your own Snap Ring assortment from the following 52 popular snap rings. Individual part numbers available in 20 packs only.



FREE DIAMETER "A"
SNAP RING SPECIFICATIONS (in inches)

Part No.	Shaft Dia.	Housing Dia.	Free Dia "A"	Pieces Per Bag	Part No.	Shaft Dia.	Housing Dia.	Free Dia "A"	Pieces Per Bag
520-01	.110		.076	20	520-27		1.023	1.136	20
520-02	.125		.094	20	520-28		1.062	1.180	20
520-03	.156		.114	20	520-29		1.250	1.388	20
520-04	.188		.145	20	520-30		1.378	1.526	20
520-05	.188		.122	20	520-31		1.500	1.660	20
520-06	.218		.185	20	520-32		1.750	1.942	20
520-07	.250		.207	20	520-33	.156		.142	20
520-08	.312		.243	20	520-34	.188		.168	20
520-09	.375		.300	20	520-35	.250		.225	20
520-10	.437		.337	20	520-36	.312		.281	20
520-11	.500		.392	20	520-37	.500		.461	20
520-12	.625		.480	20	520-38	.551		.509	20
520-13	.500		.392	20	520-39	.625		.579	20
520-14	.250		.204	20	520-40	.688		.635	20
520-15	.312		.242	20	520-41	.750		.693	20
520-16	.375		.292	20	520-42	.781		.722	20
520-17	.562		.430	20	520-43	.844		.780	20
520-18	.219		.187	20	520-44	1.562		1.446	20
520-19	.375		.328	20	520-45	.781		.722	20
520-20	.500		.441	20	520-46	1.250		1.156	20
520-21	.625		.553	20	520-47		1.000	1.081	20
520-22		.438	.482	20	520-48		1.125	1.217	20
520-23		.625	.694	20	520-49	.500		.461	20
520-24		.750	.831	20	520-50	.750		.693	20
520-25		.875	.971	20	520-51	1.125		1.041	20
520-26		1.000	1.111	20	520-52	.156		.113	20

No. 742 BI-METAL THERMOMETER

Designed to read temperature of air conditioning systems and radiators. 1" (24.5mm) dial reads from 0° to 220° F, accurate within 1%. 5" (127mm) stem is made from stainless steel. Complete with plastic case and pocket clip.



No. 307, 308, 309 PRY BARS

Designed to pry cylinder heads, manifolds, transmission cases, drive line components and more.

- No. 307** 5/16" (8mm) wide, 12-3/4" (324mm) OAL
- No. 308** 3/8" (9.5mm) wide, 15-3/4" (400mm) OAL
- No. 309** 1/2" (13mm) wide, 17" (432mm) OAL





No. 716 POWER SCISSORS

BLADES NEVER NEED SHARPENING

Serrated, stainless steel, offset blades protect hands. Acrylic handles are contoured to comfortably fit hand. High quality, American made. Cuts: sheet metal, rope, canvas, cardboard, tin, aluminum, carpet, linoleum, wire, plastics, paper, vinyl, tile, screen, webbing, rubber, and more.



INSPECTION MIRRORS

Full 360° swivel mirror ensures fast and accurate visual inspection of hidden areas. Double ball joint allows mirror to move freely and yet hold desired position. Replaceable mirrors are plated copper backed. Insulated vinyl grips.

No. 20 ROUND TELESCOPING POCKET MIRROR

1-1/4" (32mm) round mirror. Pocket sized with pocket clip. Handle extends from 4-1/2" to 18" (114 - 457mm).

No. 23 ROUND POCKET MIRROR

1" (25mm) Round Mirror. 6" (152mm) Handle. 7-3/4" (197mm) OAL.

No. 24 OVAL POCKET MIRROR

1" x 2" (25 - 50mm) Oval Mirror. 6" (152mm) Handle. 8-3/4" (222mm) OAL.

No. 25 ROUND MIRROR WITH TELESCOPING HANDLE

2-1/4" (57mm) Round Mirror. Handle Extends from 6" to 12" (152 - 305mm). 15" (381mm) OAL.

No. 27 RECTANGULAR MIRROR WITH TELESCOPING HANDLE

2" x 3-1/2" (51mm x 89mm) Rectangular Mirror. Handle Extends from 7" to 12" (178 - 305mm). 17" (432mm) OAL.

No. 624 INSPECTION MIRROR

Full 90° swing tilt hand inspection mirror for automotive, aircraft, electronic, TV repair and other applications. Thumb operated lever can lock mirror at desired angle and return it to a straight position. Mirror size: 1-11/16" x 2-9/16" (43mm x 65mm). 16" (406mm) OAL.

No. 225 MAGNET PICK-UP - 9 INCH

This powerful magnetized head removes small parts in tight areas. 5 oz. lifting capacity. 5/16" (8mm) dia. 9" (229mm) OAL.



No. 226 TELESCOPING MAGNET PICK-UP

This master magnet tool telescopes to a convenient 16" (406mm) and will open to 27-1/2" (699mm). This longer, stronger design easily picks up 1.5 lbs.



No. 283 HEAVY DUTY TELESCOPING MAGNET PICK-UP

This super power magnet pick-up tool will handle those heavy duty jobs where lighter tools fail. Telescopes from 17" to 27-1/2" (432-699mm).



No. 285 POCKET MAGNET PICK-UP - 6 INCH

This handy 6" (152mm) pocket tool has a shirt pocket slip for easy carrying. Brightly polished, light-weight, aluminum shaft has knurled handle for sure grip.



No. 287 TELESCOPING POCKET MAGNET

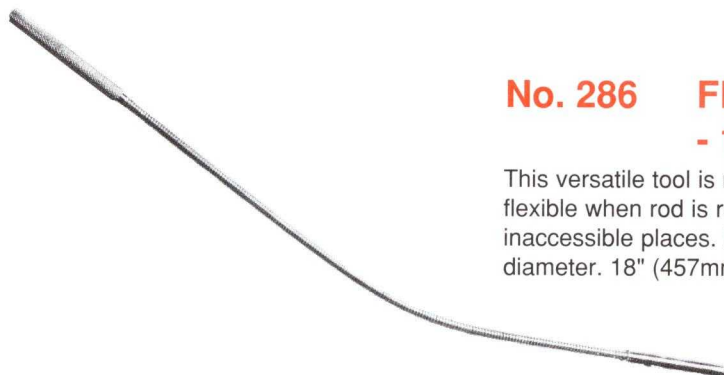
This pocket size magnet tool extends from 5-1/4" to 17-1/2" (133-444mm). Complete with pocket clip. Lift capacity 1 oz.



No. 236 HEAVY DUTY MAGNET PICK-UP - 19 INCH

This strong 19" (483mm) long pick-up tool lifts over 1.5 lbs. Push knob allows you to reach object before energizing magnet. Unique, flexible shaft stays bent to access difficult areas.





No. 286 FLEXIBLE MAGNET PICK-UP - 18 INCH

This versatile tool is rigid with stiffening rod in place yet completely flexible when rod is removed. Permits reaching into small, deep, inaccessible places. Permanent Alnico Magnets. 5/16" (8mm) diameter. 18" (457mm) OAL.



No. 714 FLEXIBLE MECHANICAL FINGER

This tool is a real "grabber". Retrieve dropped parts from hard-to-reach places by simply depressing button to extend fingers and releasing button to grab the lost part. 14" (356mm) long.



No. 715 FLEXIBLE MECHANICAL FINGER

This tool can be bent in to any position for retrieving parts and will retain that position until you change it. Retrieves lost articles in otherwise inaccessible places. 18" (457mm) OAL.



No. 627 HOOK SCRIBE

This 2-point scribe has one (1) straight and one (1) bent point which screw into a knurled steel body. Points are hardened. 8-1/4" (210mm) OAL.



No. 628 HOOK SCRIBE - SLIP HANDLE

This handy adjustable knurled sleeve handle can be securely clamped in any position on the double end scribe. One end has straight point and the other end has bent point. 8-1/4" (210mm) OAL.

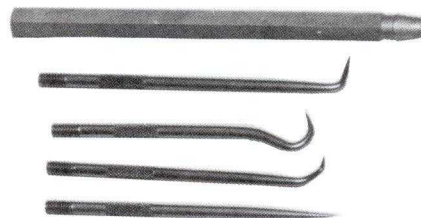
No. 630 SCRIBE CARBIDE POINT

For scribing on metals, ceramics, glass and other hard materials. Carbide point is embedded in metal shaft. Knurled aluminum body with pocket clip. Point may be reversed in screw chuck for protection when not in use.



No. 633 PICK-IT SET

This 5 piece scribe and hook set has many uses, including scribing metal, picking "O" rings from grooves, retrieving parts from hard to reach areas, etc. Blades are made of high carbon steel, heat treated and ground to fine points. Points screw into aluminum handle for a positive fit.



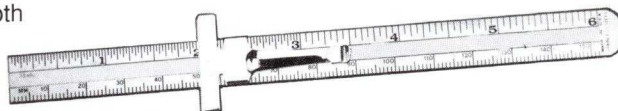
No. 350 HEAVY DUTY GASKET SCRAPER

Manufactured from extra quality alloy steel, producing knife-like edges which stand up under long use. 7/8" (22mm) flat scraper blade. 1/4" shaft. 9-1/2" (6mm x 241mm) OAL.



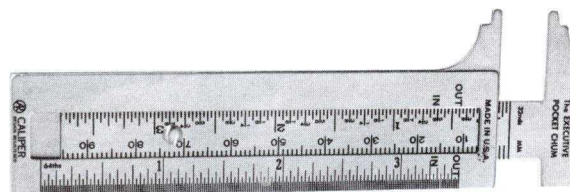
No. 60 STAINLESS STEEL RULE

6" stainless steel rule with front graduated 0 - 150 mm on the other edge. Back of rule shows standard equivalents. Equipped with depth gauge pocket clip.



No. 626 STAINLESS STEEL CALIPER

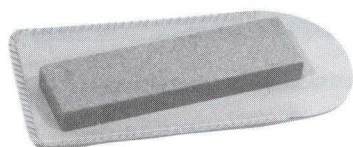
This stainless steel inside / outside caliper is a quality, precision tool. Measurements clearly etched in standard and metric gradations. Tension spring holds settings. Measures outside diameter from 0.0" and inside diameter from 3/16" (5mm). Slip-slide construction will last for years.





No. 352 COTTER PIN PULLER

Removes stubborn and hard-to-reach pins. Rolled hook provides exceptional leverage. 5/16" x 7-1/2" (8mm x 191mm) long.



No. 637 KNIFE SHARPENING STONE

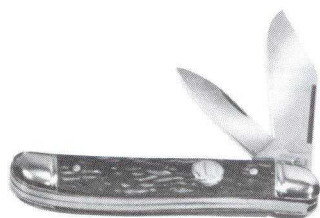
Small compact stone 1/4" x 1" x 4" for sharpening mechanics edge tools. Made of finest quality abrasives, aluminum oxide. Fine grit.



No. 356 UTILITY KNIFE

Die cast handle, enamel finish. Blade locks in four positions: full, half, carton opening and closed. Extra heavy surgical quality steel blade.

No. 356-1 Five (5) Replacement Blades for No. 356 Utility Knife.



No. 712 JACK KNIFE

Two (2) high quality alloy steel blades, staglon type handle. Ideal size to carry in your pocket. 3-1/8" (79mm) closed.



No. 713 BARLOW-STYLE JACK KNIFE

Two (2) alloy steel blades with staglon type handle. 3-3/8" (86mm) long when closed.

No. 403 MULTI-PURPOSE SPRAY NOZZLE

All metal, multi-purpose gun provides instant on/off action by squeezing trigger. Comes complete with reversible nozzle which has a patented multi-hole cap that gives a full cone spray on one side, reverses for a high velocity straight stream or remove it completely for a no-splash full flow. 250 max psi.



No. 183 NUT SPLITTING TOOL

A real time saver when removing rusted or corroded nuts. This small compact tool 4-3/4" (121mm) long will split nuts up to 1/2" (13mm) automotive series or any nut 7/8" (22mm) across flat. A few turns with a 3/4" (19mm) hand wrench and the nut is split for easy removal. No power needed. Made from high grade heat-treated steel. Zinc plated. Individually packaged. Do not use air impact wrench on this tool.



No. 304 HIGH SPEED TWIST DRILLS

This popular drill set includes 13 drills, in the following sizes: 1/16", 5/64", 3/32", 7/64", 1/8", 9/64", 5/32", 11/64", 3/16", 13/64", 7/32", 15/64", 1/4". Packed in a plastic case.

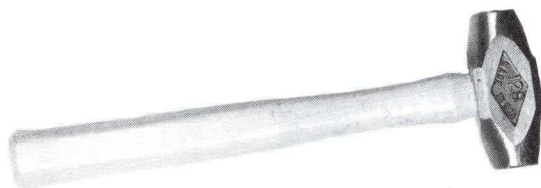


Nos. 619 - 622 BRASS HAMMERS

Designed of solid brass, these soft alloy hammers prevent damage to machinery, equipment, dies, etc. The non-sparking feature of these hammers, renders them safe to use around cleaning solvents, gasoline, etc. Soft vinyl handle for easy grip.

- No. 619 12 oz., 1-1/8" (29mm) Face Diameter
- No. 620 4 oz., 3/4" (19mm) Face Diameter
- No. 621 8 oz., 15/16" (24mm) Face Diameter
- No. 622 16 oz., 1-1/4" (32mm) Face Diameter





No. 126 SOFT BRONZE HAMMER

This 2 lb. bronze hammer is used both to drive easily damaged parts and for use in areas where sparks could be hazardous. Head of cast bronze, polished and lacquered. Straight grain hickory handle hex designed for positive gripping.

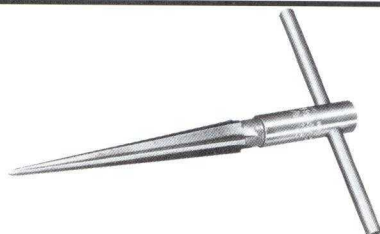


No. 800, 801 NON-SPARKING BRASS PUNCHES

Ideal for use where sparks from ferrous metal could be hazardous or where precision metal parts could be damaged by using steel punches. The ends of this soft brass punch will mushroom with normal use and should be redressed regularly.

No. 800 **Brass Taper Punch**
8" (203mm) Long, 5/8" hex - tapered to 3/8"

No. 801 **Brass Bar Punch**
10" (254mm) Long, 3/4" diameter, chamfered both ends



No. 252, 253 TAPER REAMERS

Designed for removing burrs, enlarging and aligning holes in sheet metal, aluminum, bronze, wood, plastic, etc., and for starting taps. Made of heat-treated high grade tool steel and accurately machined. Oversized so full range can be maintained after sharpening.

No. 252 Range 1/8" to 1/2", Length 5-5/8" (143mm)

No. 253 Range 7/16" to 1", Length 6-1/2" (165mm)



No. 774, 775 ADJUSTABLE "C" CLAMP

These "C" clamps are made of high grade malleable iron, single ACME thread screw with oscillating ball and socket tip. Frame shaped for greatest strength for total weight, sliding pin (vise type) handle for added leverage. Ideal for disc brake piston assembly.

No. 774 4" (102mm) "C" Clamp

No. 775 6" (152mm) "C" Clamp

No. 259, 260, 261, 262 STAMPS

Made from fine quality steel selected for its proven ability to stand the gaff. Special heat treatment gives the stamp three (3) distinct hardness zones. The character end is hardened to prevent chipping or battering. The shank is tough to prevent bending. The hammer end is tempered to prevent mushrooming under repeated blows. Index mark on thumb side. Treated with rust preventative.

Letter Sets

Includes 27 characters and one (1) period.

No. 259 3/16" (5mm) high Characters

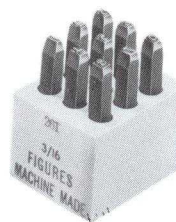
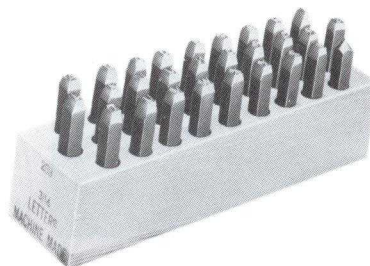
No. 260 1/4" (6mm) high Characters

Numerical Sets

Includes nine (9) numbers from 0 to 8, with the "6" also being used for the "9".

No. 261 3/16" (5mm) high Numerals

No. 262 1/4" (6mm) high Numerals



No. 832 SAFETY GOGGLES

Flexible coverall eye shields molded from soft form fitting vinyl which provides highest degree of protection and wearing comfort. Weigh only 2 oz. and are large enough to fit over any pair of Rx glasses. Perforated frame for proper ventilation. Clear lens.



No. 833 SAFETY GLASSES

These glasses are designed with high impact, optically clear polycarbonate lenses which are hard-coated inside and out to resist scratching and abrasion. Universal nose bridge and temples provide self-fitting comfort. Modified browguard increases overhead protection. Integral sideshields. Clear colored lenses with blue-smoke colored frames. Meets ANSI Z87.1 standard.





No. 50 FENDER COVER

Protects fender from scratches. Made of vinyl, non-absorbant backing. Handy tool ridge keeps tools where you want them. Resists stains, completely washable. Black with gray Cal-Van imprint. 27" x 36" (686mm x 915mm).



No. 850 HOOD, HATCH AND TRUNK LID HOLDER

This adjustable, telescoping rod holds hood, door, hatch or trunk lid open during repair, replacement or body work. Rubber ends prevent slippage and damage to finish. Extends from 28" to 46" (711 - 1168mm) and supports a maximum of 150 lbs. Not for heavy duty support.



No. 135 FORD RADIO REMOVER

Tool inserts into holes on radio face to release retaining clips. Fast and easy. Fits Ford vehicles 1987 to current.



No. 113 SOCKET HOLDER SET

Unique design holds sockets firmly in place on rail yet allows holding clips to be arranged easily to any desired position. Each rail comes with 16 socket holding clips. Set includes one (1) each of Nos. 110, 111, 112. Also available individually. 17" (432mm) OAL.

- | | |
|----------------|--------------------|
| No. 110 | 1/4" Socket Holder |
| No. 111 | 3/8" Socket Holder |
| No. 112 | 1/2" Socket Holder |



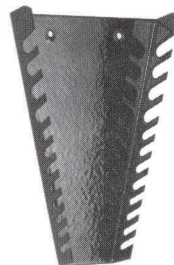
No. 906 BIT HOLDER

This plastic tool bit holder is designed to hold seven (7) tool bits with 1/4" shanks. Can be hung on pegboard or stored with bits in tool box. Two (2) per package.



No. 811 WRENCH HOLDER

This holder is designed to hold twelve (12) wrenches including open-end wrenches, box wrenches, combination wrenches or other small wrenches. It may be used to organize wrenches in a tool box drawer, hung on the wall or carried to the job. Made of cold rolled steel with black plastic coating. 5-1/2" wide x 1" high (140mm x 25mm).



No. 422, 423 "NU-THREAD" FILES

Nu-Thread is the time tested thread restoring tool for renewing damaged threads on any diameter bolt, stud, axle or shaft. Nu-Thread is used just like a file. It also makes a perfect thread gauge. Each thread size is clearly marked.

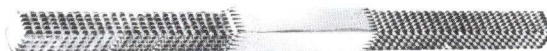


No. 422 File for No. 11, 12, 13, 14, 16, 18, 20, 24.

No. 423 File for No. 9, 10, 12, 16, 20, 27, 28, 32.

No. 414 METRIC THREAD FILE

Renew damaged threads on any diameter bolt, stud, axle, or shaft with metric threads. Use just like a file. Makes a perfect thread gauge. Each thread size is clearly marked in the following eight (8) sizes: .75mm, 1.00mm, 1.25mm, 1.50mm, 1.75mm, 2.00mm, 2.50mm, and 3.00mm.



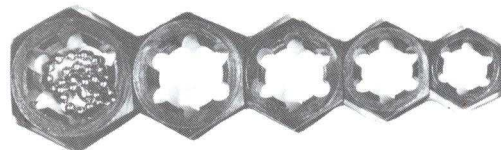
No. 425 UNIVERSAL THREAD FILE

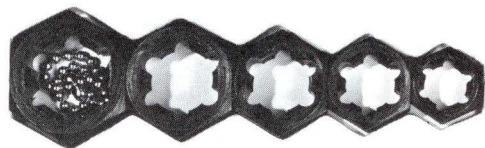
This file will renew all 60° threads including: standard, metric, oversized, right or left hand, fine or coarse threads. Plastic handle to protect your hand. 9" (229mm) OAL.



No. 417 RETHREADING DIE KIT-N.C.

Five (5) piece hex die set, includes following sizes: 3/4" - 10, 7/8" - 9, 1" - 8, 1-1/8" - 7 and 1-1/4" - 7. Packed in storage box. Beaded chain included for alternate storage method. Copper colored.





No. 418 RETHREADING DIE KIT - N.F. SAE

Five (5) piece Hex Die Set, includes following sizes: 3/4" - 16, 7/8"-14, 1" - 12, 1-1/8" - 12 and 1-1/4" - 12. Packed in storage box. Beaded chain included for alternate storage method. Blue colored.

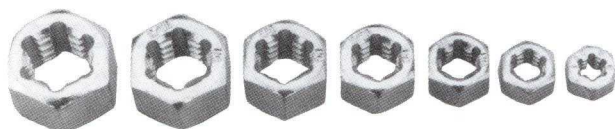


No. 415 7-PC FWD SPINDLE & AXLE RETHREADING KIT

Chase out mushroomed, corroded, rusted threads with this 7 piece set. Contains five (5) metric dies: 20 x 1.5, 22 x 1, 22 x 1.5, 24 x 1.5, 24 x 2; and two (2) SAE sizes: 3/4 - 20 and 13/16 - 20. All dies have same O.D. size and use same 1-1/4" wrench. Stored in high impact plastic box. Always oil threads before and during cutting.

No. 420, 421 RETHREADING DIE KITS No. 428, 429

Instantly renews damaged threads without undercutting good threads. Dies are the size of nuts, making them ideal for working in tight spaces. Dies are easily run on / off with any wrench, when complete nut fits like new. Coarse and Fine sets in two distinct colors to ease selection. Each set stored in clear plastic box.



7-Piece Sets

No. 420

NC-USS (Coarse)

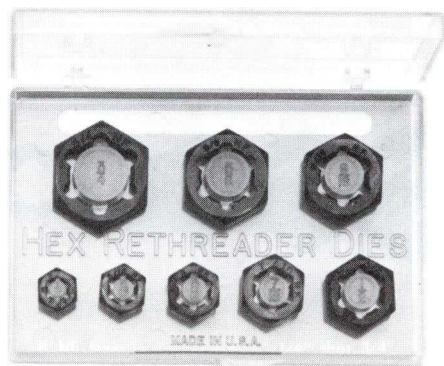
Seven (7) piece set, includes following sizes: 1/4" - 20, 5/16" - 18, 3/8" - 16, 7/16" - 14, 1/2" - 13, 9/16" - 12, 5/8" - 11. Copper color.



No. 421

NF-SAE (Fine)

Seven (7) piece set, includes following sizes: 1/4" - 28, 5/16" - 24, 3/8" - 24, 7/16" - 20, 1/2" - 20, 9/16" - 18, 5/8" - 18. Black color



8-Piece Sets

No. 428

NC-USS (Coarse)

Eight (8) piece set, includes following sizes: 1/4" - 20, 5/16" - 18, 3/8" - 16, 7/16" - 14, 1/2" - 13, 9/16" - 11, 5/8" - 11, 3/4" - 10. Copper color.

No. 429

NF-SAE (Fine)

Eight (8) piece set, includes following sizes: 1/4" - 28, 5/16" - 24, 3/8" - 24, 7/16" - 20, 1/2" - 20, 9/16" - 18, 5/8" - 18, 3/4" - 16. Black color.

No. 413 METRIC RETHREADING DIE SET

Five (5) piece metric rethreading die for renewing damaged and corroded threads. Sizes 6 x 1mm, 7 x 1mm, 8 x 1.25mm, 10 x 1.50mm, 12 x 1.75mm. In clear plastic storage box.



No. 159, 165, 168 SCREW STARTERS

The time-saving answer to fumbling with short screws in tight places. Starts or removes all size screws in difficult, inaccessible places with no interfering claws. Grips the screw inside the screw slot with a 15 lb. pull releases automatically and resets as screw is tightened. Precision made with fine tool blade and bit. Aluminum handles.



No. 159 For electronics, ignition and under dash work. 5" (127mm) long.

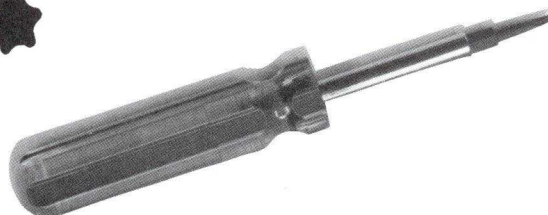
No. 165 Same as No. 159, with an added magnet.

No. 168 For Phillips screws. 5" (127mm) long.



No. 907 4-in-1 REVERSIBLE TORX® SCREWDRIVER

Each driver contains four (4) TORX® bits consisting of two (2) double end TORX® bits in reversible tube. Bit sizes T-15, T-20, T-25 and T-30. These four (4) sizes cover most popular applications.

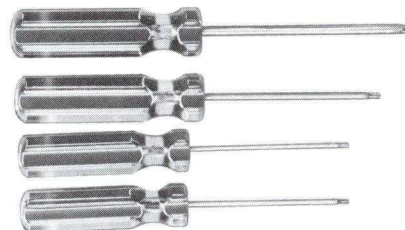


No. 900 TORX® SCREWDRIVER SET

This set includes four (4) of the most popular sizes of TORX® screwdrivers in a storage pouch. Blades are precision machined of alloy steel, heat treated and permanently embedded in full size handle. Also available individually. Set includes:



- No. 902** T-15 TORX® Screwdriver
- No. 903** T-20 TORX® Screwdriver
- No. 904** T-25 TORX® Screwdriver
- No. 905** T-30 TORX® Screwdriver



Also Available, but not included in No. 900 Set:

- No. 901** T-10 TORX® Screwdriver



No. 908 T-15 TORX® SCREWDRIVER EXTRA LONG



Extra long TORX® T-15 screwdriver for use in recessed and hard to reach areas. A must when using a headlight aimer. 20" (508mm) OAL.



No. 667 4-WAY OFFSET SCREWDRIVER

This handy tool has a No. 1 and a No. 2 Phillips blade on one end, and two 1/4" straight blades on the other end. 5" (127mm) OAL.



No. 668 MAGNETIC SCREWDRIVER

Magnetic force holds insert bits securely in place yet allows bits to be quickly and easily changed. Driver has handy storage compartment in handle to keep bits at hand for quick easy changes. 7-1/2" (191mm) OAL. Replacement bits may be ordered individually. Screwdriver includes the following bits:

- | | |
|------------------|----------------|
| No. 668-1 | 6 - 8 Slotted |
| No. 668-2 | 8 - 10 Slotted |
| No. 668-3 | No.1 Phillips |
| No. 668-4 | No. 2 Phillips |



No. 651 IMPACT WRENCH KIT

Great for handling the really tough jobs. A short twist sets the working cam and return spring. The anvil end is then struck a sharp blow with a hammer. Loosens screws and bolts even when rusted or wedged tight. 3/8" square drive. REVERSIBLE action also tightens screws and bolts. Includes No. 115-1 Square Drive Adapter, and four (4) bits including Nos. 650-2, 650-3, 650-4, 650-5. Packaged in plastic pouch.

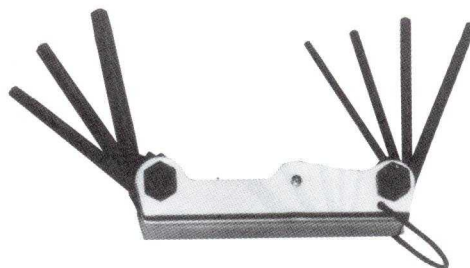
Also Available Individually:

- | | |
|------------------|--|
| No. 650 | Impact Driver Only |
| No. 115-1 | 5/16" Hex x 3/8" Square Drive Adapter |
| No. 650-2 | #12-14 Straight Bit, 5/16" Hex 1-1/2" (38mm) Long |
| No. 650-3 | #16-18 Straight Bit, 5/16" Hex 1-5/16" (33mm) Long |
| No. 650-4 | No. 2 Phillips, 5/16" Hex 1-1/4" (32mm) Long |
| No. 650-5 | No. 4 Phillips, 5/16" Hex 1-1/4" (32mm) Long |



No. 916 FOLDING TORX KEY SET

This compact folding TORX® key set keeps all your TORX® keys together. 4" (102mm) long handle, 3" (76mm) blades. Set contains the seven (7) most popular TORX® sizes T-10, T-15, T-20, T-25, T-27, T-30 and T-40. Chrome case and black oxide keys.

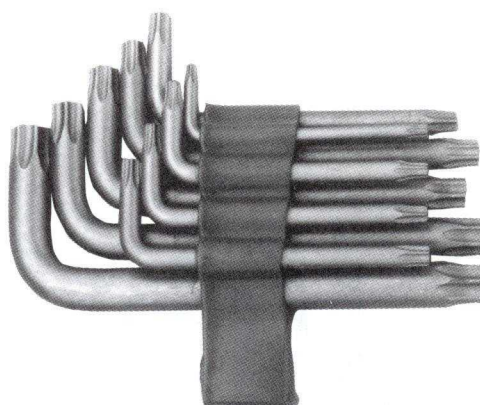


No. 911 TORX KEY SET

This nine (9) piece TORX® key set is made of hardened alloy steel to withstand high torque requirements. Coated with a black oxide finish stored in convenient vinyl holder. TORX® keys also available individually. Set includes Nos. 911-10 to 911-50.

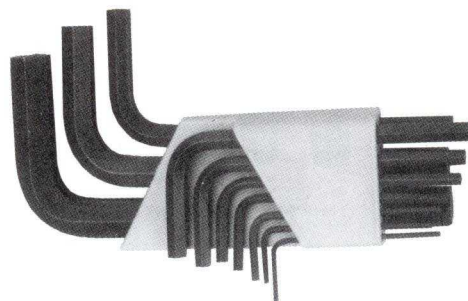


No. 911-10	T-10
No. 911-15	T-15
No. 911-20	T-20
No. 911-25	T-25
No. 911-27	T-27
No. 911-30	T-30
No. 911-40	T-40
No. 911-45	T-45
No. 911-50	T-50



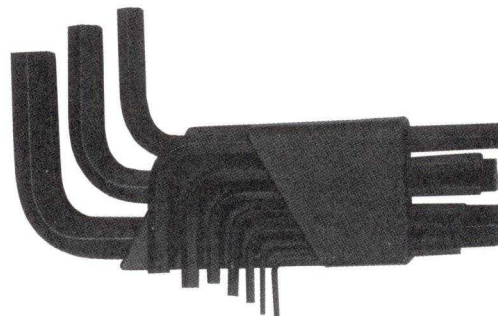
No. 340 FRACTIONAL HEX KEY WRENCHES

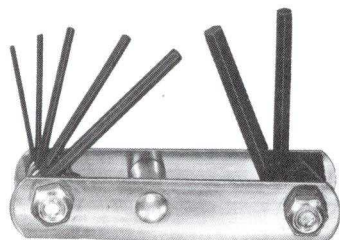
Precision manufactured of select alloy steel to assure accurate fit on Allen head screws. Carefully tempered and hardened to withstand the high torque required. Includes 11 sizes: .050", 1/16", 5/64", 3/32", 1/8", 5/32", 3/16", 7/32", 1/4", 5/16" and 3/8".



No. 640 METRIC HEX KEY WRENCH SET

Ten (10) piece hex key wrench contains following size hex keys: 1.27mm, 1.5mm, 2mm, 2.5mm, 3mm, 4mm, 5mm, 6mm, 8mm, 10mm.





No. 341, 342 POCKET HEX KEY SET

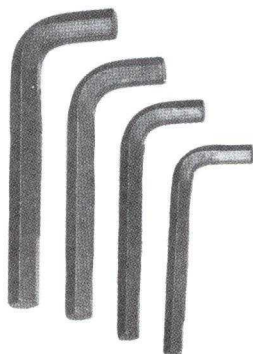
Mounted in a steel case with keys that fold down like a pocket knife. Each wrench size can be used independently in any position best suited for the job.

No. 341 Metric Hex Key Set

Seven (7) metric hex keys, sizes: 1.27mm, 1.5mm, 2mm, 2.5mm, 3mm, 4mm, and 5mm.

No. 342 Standard Hex Key Set

Seven (7) popular standard hex keys, sizes: .050", 1/16", 5/64", 3/32", 1/8", 5/32", and 3/16".



No. 343 METRIC HEX KEY WRENCH SET

Large metric hex keys in four (4) popular sizes for use on metric internal hex head bolts. Hex keys also available individually. Set includes Nos. 344, 345, 346, 347 stored in a pouch.

No. 344 12mm Hex Key Wrench

No. 345 14mm Hex Key Wrench

No. 346 17mm Hex Key Wrench

No. 347 19mm Hex Key Wrench



No. 910 1/4" TORX® INSERT BITS

TORX® Set contains No. 114 to 114-30 including seven (7) bits & driver adapter for servicing Ford, GM, Chrysler and import vehicles. Precision made of alloy steel, heat treated and preserved with a black oxide finish. Designed to be used in some magnetic screwdrivers and drivers with standard hex sizes. Stored in vinyl holder. Set includes:



No. 114 1/4" Hex x 1/4" Square Drive Bit Holder

No. 114-8 TORX® T-8, 1/4" Hex x 1" Long

No. 114-10 TORX® T-10, 1/4" Hex x 1" Long

No. 114-15 TORX® T-15, 1/4" Hex x 1" Long

No. 114-20 TORX® T-20, 1/4" Hex x 1" Long

No. 114-25 TORX® T-25, 1/4" Hex x 1" Long

No. 114-27 TORX® T-27, 1/4" Hex x 1" Long

No. 114-30 TORX® T-30, 1/4" Hex x 1" Long

Also Available, but not included in No. 910 set:

No. 114-7 TORX® T-7 1/4" Hex x 1" Long

No. 114-9 TORX® T-9 1/4" Hex x 1" Long



No. 115 5/16" TORX® INSERT BITS

Our most popular TORX® set contains six (6) bits and a driver adapter for Ford, GM, Chrysler and import vehicles. Precision made of alloy steel, heat treated and preserved with a black oxide finish. Designed to be used in some magnetic screwdrivers and drivers with standard hex sizes. Set includes:

- No. 115-1 5/16" Hex x 3/8" Square Drive Bit Holder
- No. 115-2 TORX® T-45, 5/16" Hex x 1-1/8" Long
- No. 115-3 TORX® T-50, 5/16" Hex x 1-1/8" Long
- No. 115-4 6mm Ribe, 5/16" Hex x 1-1/8" Long
- No. 115-5 TORX® T-30, 5/16" Hex x 1-1/8" Long
- No. 115-6 TORX® T-40, 5/16" Hex x 1-1/8" Long
- No. 115-7 TORX® T-55, 7/16" Hex x 1-3/8" Long



No. 914 TAMPER RESISTANT TORX® BIT SET

Set includes sizes T-10, T-15, T-20, T-25, T-27, T-30, T-40, plus bit holder 1/4" x 1/4" drive stored in vinyl holder. Designed for removing tamper resistant TORX® fasteners. Bit has access hole in center to cover peg in center of fasteners used on some cars and trucks. TORX® bits also available individually. Set includes:

- No. 114 1/4" hex x 1/4" Square Drive Bit Holder
- No. 914-10 TORX® T-10, 1/4" Hex
- No. 914-15 TORX® T-15, 1/4" Hex
- No. 914-20 TORX® T-20, 1/4" Hex
- No. 914-25 TORX® T-25, 1/4" Hex
- No. 914-27 TORX® T-27, 1/4" Hex
- No. 914-30 TORX® T-30, 1/4" Hex
- No. 914-40 TORX® T-40, 1/4" Hex



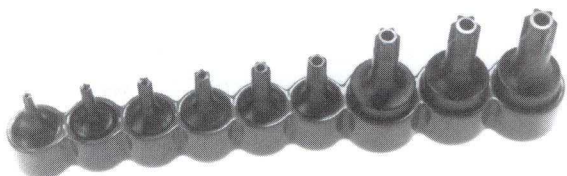
Also Available, but not included in No. 914 Set:

- No. 915-3 TORX® T-50, 5/16" Hex
- No. 915-4 TORX® T-55, 7/16" Hex



No. 913 TAMPER RESISTANT TORX® DRIVER SET

Contains nine (9) of the most popular tamper resistant square drive bits. Bits with 1/4" drive include T-10, T-15, T-20, T-25, T-27, T-30. Bits with 3/8" drive include T-40, T-45, T-50. TORX® drivers also available individually. Set includes:



No. 913-10	T-10 Tamper Resistant TORX® 1/4" Sq. Dr.
No. 913-15	T-15 Tamper Resistant TORX® 1/4" Sq. Dr.
No. 913-20	T-20 Tamper Resistant TORX® 1/4" Sq. Dr.
No. 913-25	T-25 Tamper Resistant TORX® 1/4" Sq. Dr.
No. 913-27	T-27 Tamper Resistant TORX® 1/4" Sq. Dr.
No. 913-30	T-30 Tamper Resistant TORX® 1/4" Sq. Dr.
No. 913-40	T-40 Tamper Resistant TORX® 3/8" Sq. Dr.
No. 913-45	T-45 Tamper Resistant TORX® 3/8" Sq. Dr.
No. 913-50	T-50 Tamper Resistant TORX® 3/8" Sq. Dr.



No. 932 TORX® BIT SET

Twelve (12) of the most popular TORX® bits are conveniently assembled in a vinyl holder. TORX® bits also available individually. Set includes:

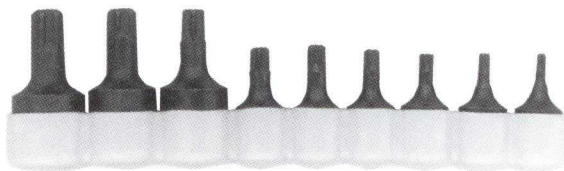


No. 930-1	T-10, 1/4" Drive
No. 930-2	T-15, 1/4" Drive
No. 930-3	T-20, 1/4" Drive
No. 930-4	T-25, 1/4" Drive
No. 930-5	T-27, 1/4" Drive
No. 930-6	T-30, 1/4" Drive
No. 930-7	T-40, 3/8" Drive
No. 930-8	T-45, 3/8" Drive
No. 931	T-47, 3/8" Drive
No. 930-9	T-50, 3/8" Drive
No. 930-10	T-60, 1/2" Drive
No. 930-12	T-55, 3/8" Sq. Drive



No. 930 TORX® BIT SET

Nine (9) popular TORX® Bits in vinyl holder, including Nos. 930-1, 930-2, 930-3, 930-4, 930-5, 930-6, 930-7, 930-8, 930-9. See descriptions above.

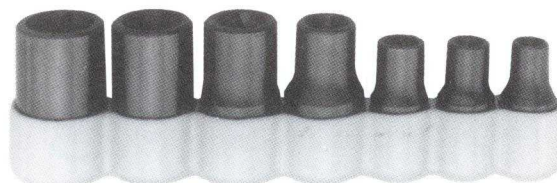


No. 920 TORX® SOCKETS FOR BOLTS



Remove and install TORX® head bolts. Available in 1/4" and 3/8" square drive sizes. Bolts are easily adaptable to power or hand driven tools. Made of alloy steel, heat treated for extra hardness with black oxide finish. Stored in convenient vinyl holder. TORX® sockets also available individually. Set includes:

- | | |
|---------|---|
| No. 921 | E-6 TORX® Socket 1/4 Drive x 1" Long |
| No. 922 | E-7 TORX® Socket 1/4 Drive x 1" Long |
| No. 923 | E-8 TORX® Socket 1/4 Drive x 1" Long |
| No. 925 | E-10 TORX® Socket 3/8 Drive x 1-1/4" Long |
| No. 926 | E-12 TORX® Socket 3/8 Drive x 1-1/4" Long |
| No. 927 | E-14 TORX® Socket 3/8 Drive x 1-1/4" Long |
| No. 928 | E-16 TORX® Socket 3/8 Drive x 1-1/4" Long |



Also Available, but not included in No. 920 Set:

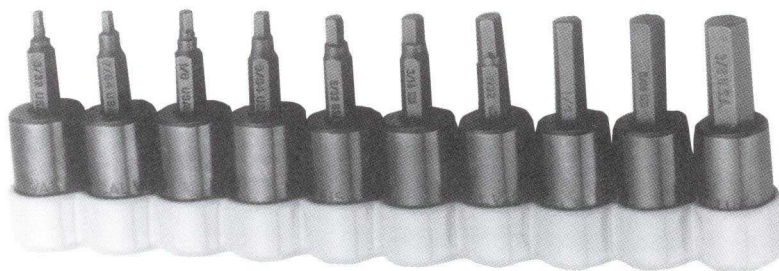
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|---------|--|
| No. 929 | E-18 TORX® Socket 1/2 Sq. Dr. x 1-3/4" Long. |
|---------|--|

No. 935 HEX INSERT BITS, STANDARD



Ten (10) standard bits 3/32" to 3/8" stored in molded vinyl bit holder. Bits and holders are also available individually. Set includes one (1) each of the following:

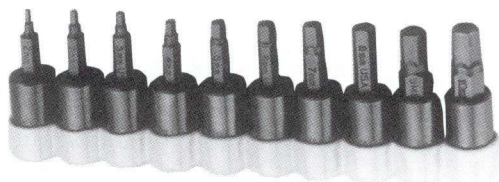
- | | |
|------------|-------------------------------------|
| No. 935-01 | 3/32" Point, 1/4" Shank |
| No. 935-02 | 7/64" Point, 1/4" Shank |
| No. 935-03 | 1/8" Point, 1/4" Shank |
| No. 935-04 | 9/64" Point, 1/4" Shank |
| No. 935-05 | 5/32" Point, 1/4" Shank |
| No. 935-06 | 3/16" Point, 1/4" Shank |
| No. 935-07 | 7/32" Point, 1/4" Shank |
| No. 935-08 | 1/4" Point, 1/4" Shank |
| No. 935-09 | 5/16" Point, 1/4" Shank |
| No. 935-10 | 3/8" Point, 3/8" Shank |
| No. 934-01 | Bit Holder for Nos. 935-01 - 935-08 |
| No. 934-02 | Bit Holder for No. 935-09 |
| No. 934-03 | Bit Holder for No. 935-10 |





No. 936 HEX INSERT BITS, METRIC

Ten (10) metric bits 2mm to 10mm stored in molded vinyl bit holder. Also available individually. Set includes one (1) each of the following:



No. 936-02	2mm Point; 1/4" Shank
No. 936-03	3mm Point, 1/4" Shank
No. 936-04	4mm Point, 1/4" Shank
No. 936-05	5mm Point, 1/4" Shank
No. 936-06	6mm Point, 1/4" Shank
No. 936-07	7mm Point, 5/16" Shank
No. 936-08	8mm Point, 5/16" Shank
No. 936-09	9mm Point, 7/16" Shank
No. 936-10	10mm Point, 7/16" Shank
No. 936-25	2.5mm Point
No. 934-01	Bit Holder for Nos. 936-02 - 936-06
No. 934-02	Bit Holder for Nos. 936-07 - 936-08
No. 934-04	Bit Holder for Nos. 936-09 - 936-10

HEX BIT HOLDERS & ADAPTERS



No. 114	1/4" Hex with 1/4" Drive, 1-1/2" Long
No. 115-1	5/16" Hex with 3/8" Drive, 1-1/4" Long
No. 117-1	7/16" Hex with 1/2" Square Drive
No. 119-1	7/16" Hex with 3/8" Square Drive
No. 121	5/16" Hex with 1/2" Drive, 1-1/2" Long



No. 116 SERRATED WRENCH SET

Set of 6mm and 8mm bits with 5/16" holder, 3/8" square drive. 12 point. Wrenches also available individually. Set includes:



No. 115-1	5/16" Hex x 3/8" Square Drive Bit Holder
No. 116-2	6mm Bit, 5/16" Hex, 1-1/4" Long
No. 116-3	8mm Bit, 5/16" Hex, 1-1/4" Long



No. 117 SERRATED WRENCH SET

Set of 10mm and 12mm bits with 7/16" holder, 1/2" square drive. 12 point. Wrenches also available individually. Set includes:



No. 117-1	7/16" Hex x 1/2" Square Drive Bit Holder
No. 117-2	10mm Bit, 7/16" Hex, 3" Long
No. 117-3	12mm Bit, 7/16" Hex, 3" Long

No. 118 METRIC HEXAGON INTERNAL WRENCH BIT SET

Six (6) piece set contains five (5) wrenches and bit holder. Use on metric fasteners as found on motorcycle engines. May be used with hand impact wrench No. 650. Wrenches also available individually. Set includes:

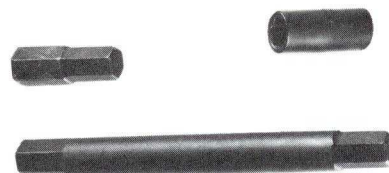
- No. 115-1 5/16" Hex x 3/8" Square Drive Adapter
- No. 118-2 4mm Bit, 5/16" Hex, 1-1/8" Long
- No. 118-3 5mm Bit, 5/16" Hex, 1-1/8" Long
- No. 118-4 6mm Bit, 5/16" Hex, 1-1/8" Long
- No. 118-5 7mm Bit, 5/16" Hex, 1-1/8" Long
- No. 118-6 8mm Bit, 5/16" Hex, 1-1/8" Long



No. 119 METRIC HEXAGON INTERNAL WRENCH BIT SET

Three (3) piece set contains two (2) wrenches and bit holder. Use on 10mm hex fasteners. May be used with hand impact wrench No. 650. Wrenches also available individually. Set includes:

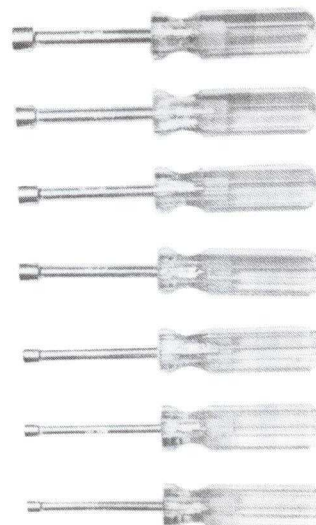
- No. 119-1 7/16" Hex x 3/8" Square Drive Adapter
- No. 119-2 10mm Bit, 7/16" Hex, 1-1/4" Long
- No. 119-3 10mm Bit, 7/16" Hex, 4-5/8" Long

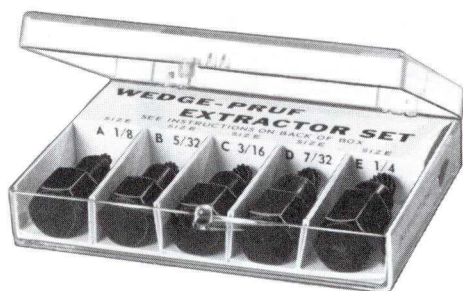


No. 370 NUT DRIVER SET

Contains the seven (7) most popular nut drivers in a vinyl pouch. The handles are color coded. Heat treated hollow shafts are Nickel Chrome Finish. Nut drivers also available individually. Set includes:

- No. 370-1 3/16" Driver, Black Handle
- No. 370-2 1/4" Driver, Red Handle
- No. 370-3 5/16" Driver, Yellow Handle
- No. 370-4 11/32" Driver, Green Handle
- No. 370-5 3/8" Driver, Blue Handle
- No. 370-6 7/16" Driver, Brown Handle
- No. 370-7 1/2" Driver, Orange Handle

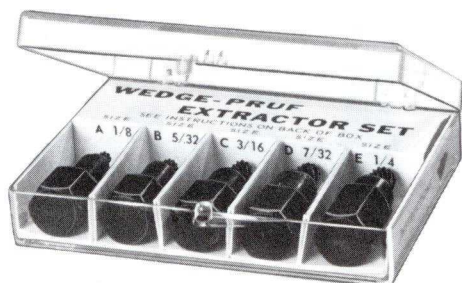




No. 439 WEDGE-PRUF EXTRACTOR SET

Extractor sizes 1/8" to 1/4" for removing bolts 1/4" to 1/2". Shoulder design prevents extractor from penetrating too far into bolt. Extractors also available individually. Set includes:

- No. 439-A 1/8" Extractor
- No. 439-B 5/32" Extractor
- No. 439-C 3/16" Extractor
- No. 439-D 7/32" Extractor
- No. 439-E 1/4" Extractor



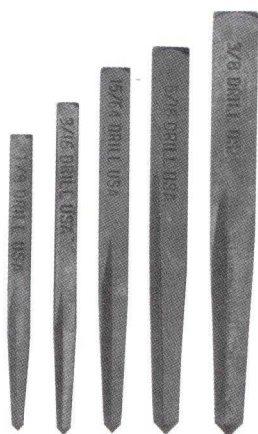
No. 440 WEDGE-PRUF EXTRACTOR SET

Five (5) Extractor sizes 9/32" to 13/32" for removing bolt sizes 9/16" to 13/16". Extractors also available individually. Set includes:

- No. 440-F 9/32" Extractor
- No. 440-G 5/16" Extractor
- No. 440-H 11/32" Extractor
- No. 440-I 3/8" Extractor
- No. 440-J 13/32" Extractor

No. 441 TAPERED FLUTED EXTRACTOR SET

Designed to remove broken studs, screws, pipe and pipe fittings quickly and easily. Has gradual taper and long flutes. Forged from alloy steel. Also available individually. Set includes:



	U.S.S. Screw Stud/Bolt Size	Drill Size	Min. Depth of Hole	Pipe Size
No. 441-1	1/4, 5/16	1/8	3/8	-
No. 441-2	3/8	3/16	1/2	-
No. 441-3	7/16	15/64	1/2	1/8
No. 441-4	1/2, 9/16	5/16	1/2	1/4
No. 441-5	5/8	3/8	5/8	3/8

No. 438 SCREW EXTRACTOR SET

Contains Nos. 431, 432, 433, 434 in a snap fastened case to fit pocket or tool box. Forged alloy steel, this twist style extractor can be used to extract broken studs or screws. Correct drill size for hole in part to be extracted is indicated on the tool. Packed in plastic storage pouch. Also available individually. Set includes:

	Dia. (inch)	For Removing Screws Shank	Dia. (inch) of Screw Extractor Point	Drill Size Inches
No. 431	5/32" to 7/32"	3/16	.080	7/64
No. 432	7/32" to 9/32"	1/4	1/8	5/32
No. 433	9/32" to 3/8"	5/16	3/16	1/4
No. 434	3/8" to 5/8"	7/16	11/4	19/64

Also Available, but not included in No. 438 Set:

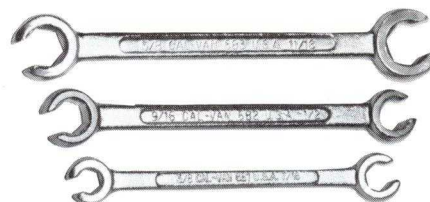
No. 430	3/32 to 5/32"	1/8	.060	5/64
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No. 680 FLARE NUT WRENCH SET

This set of three (3) flare nut wrenches is designed for tube fitting applications such as vacuum, hydraulic, refrigeration and fuel lines used on automotive, truck, road machinery, and industrial equipment. Each end is extra thick to avoid damage to soft, metal fittings. Stored in a plastic pouch. Also available individually. Set includes:

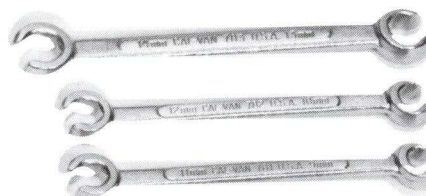
No. 681	3/8 x 7/16 Flare Nut Wrench
No. 682	1/2 x 9/16 Flare Nut Wrench
No. 683	5/8 x 11/16 Flare Nut Wrench



No. 780 METRIC FLARE NUT WRENCH SET

This set of three (3) metric size nut wrenches are built extra thick to avoid damage to flare nuts and other soft metal fittings. Use in applications such as automotive, truck, refrigeration, etc. Also available individually. Set includes:

No. 781	9mm to 11mm Flare Nut Wrench
No. 782	10mm to 12mm Flare Nut Wrench
No. 783	13mm to 14mm Flare Nut Wrench





No. 372 SOCKET "WOBBLER" EXTENSION

Perfect for use in hard-to-reach places where you need just a little more angle. Put "Wobbler" on the end of your ratchet wrench and use as an extension for socket. 3/8" female square "Wobble" end with lock ball by 3/8" square drive. Alloy steel.



No. 98 -100 RATCHETING BOX WRENCH SETS

These ratcheting box wrenches are designed with a 25° offset angle. Reverse directions simply by flipping the reversing lever with thumb or finger. Bright chrome finish. Available in sets or individually.

- No. 98 3-Piece Set**
Includes Nos. 91, 92 and 93 in plastic roll pouch.
- No. 99 5-Piece Set**
Includes Nos. 90, 91, 92, 93, 96 in plastic roll pouch
- No. 100 7-Piece Set**
Includes Nos. 90 thru 96 in plastic roll pouch.

	Sizes		Sizes
No. 90	1/4", 5/16" (6pt.)	No. 94	5/8", 3/4" (12pt.)
No. 91	3/8", 7/16" (6pt.)	No. 95	11/16", 13/16" (12pt.)
No. 92	1/2", 9/16" (6pt.)	No. 96	3/4", 7/8" (12pt.)
No. 93	5/8", 11/16" (12pt.)	No. 97	13/16", 15/16" (12pt.)



No. 880 RETHREADER KIT FOR 14mm SPARK PLUGS

Solid steel inserts replace damaged threads on aluminum heads. Kit includes the following:

- No. 880-1** Tap and Reamer, 13/16" Hex Head
- No. 880-2** Insert, 3/8" (9.5mm) Long
- No. 880-3** Insert, 7/16" (11mm) Long
- No. 880-4** Insert, 1/2" (13mm) Long
- No. 880-5** Insert, 3/4" (19mm) Long

FIX-A-THRED

SIMPLE FOR PROFESSIONALS AND DO-IT-YOURSELFERS

INTRODUCTION Fix-A-Thred type inserts are designed for hard strong precision thread in all materials such as alloys, steel, magnesium, plastic etc. and are specified for military, aviation and other similar use.

Fix-A-Thred inserts are ideal for thread repair. They replace even a completely stripped or worn thread, allowing you to use the same size bolt and barely take up more room than the original threaded hole. Fix-A-Thred is usually a stronger, harder thread than the original threaded hole, virtually eliminating any future problem.

Fix-A-Thred inserts are interchangeable, thus can be used with any other helical coil systems that are manufactured to the current international specification.

Fix-A-Thred inserts are made from 18-8 stainless steel.

Fix-A-Thred insert type system is accepted world wide as the most universal method of thread repair.

HOW FIX-A-THRED WORKS Fix-A-Thred is stainless steel wire with a diamond cross section ♦ wound to the shape of a spring thread.

The wound insert is larger in diameter than the tapped hole; installing compresses the spring, then the spring back action permanently anchors the insert into place.

Fix-A-Thred is usually stronger than original threads, because it is bigger, and has more area to hold in. Also the wire can compensate and actually share the load over all the bolt and the hole, instead of just the top few threads.

*This method of repair not recommended for taper seat spark plugs.

WHERE TO USE REPAIR — Stripped, damaged or worn threads — prevents future failure.

STRENGTHENING — High strength threads in light alloys etc. prevents failure.

CHANGEOVER — Inch to metric or vice versa no need to increase bolt size or bolt hole for mating parts.

BOLT & STUD FRACTURE PREVENTION — Fix-A-Thred shares the load and virtually eliminates bolt or stud failure.

WEAR — Eliminated. Fix-A-Thred is hard, strong, stainless steel, ideal when bolts are frequently removed and replaced.

COSTS — AND WEIGHT SAVINGS — Design and manufacture in lighter, more economical materials and retain same assembly strength.

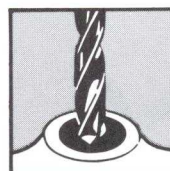
EASIER TO USE — Easier than drilling and tapping for larger bolts.

No. 1101
No. 1102
No. 1103
No. 1104
No. 1105
No. 1106
No. 1107
No. 1108
No. 1109
No. 1110
No. 1111
No. 1112
No. 1113
No. 1114
No. 1115
No. 1116
No. 1117
No. 1118
No. 1119
No. 1120
No. 1121
No. 1122
No. 1123
No. 1124

MERCHANDISING KIT AND INSERT SIZES

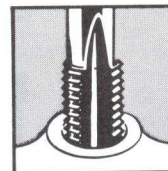
KITS	
SIZE	PART NO.
COARSE (UNC)	
1/4-20	1101
5/16-18	1102
3/8-16	1103
7/16-14	1104
FINE (UNF)	
1/4-28	1105
5/16-24	1106
3/8-24	1107
METRIC	
6X1	1108
8X1.25	1109
10X1.5	1110
12X1.75	1111
*14X1.25	1112

INSERTS	
SIZE	PART NO.
1/4-20	1113
5/16-18	1114
3/8-16	1115
7/16-14	1116
1/4-28	1117
5/16-24	1118
3/8-24	1119
6X1	1120
8X1.25	1121
10X1.5	1122
12X1.75	1123
*14X1.25	1124



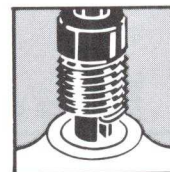
DRILL

Drill to clear out the damaged thread (if necessary).



TAP

Thread insert tap supplied. Tap thread should match up with bolt.



INSTALL

Wind insert in with light downward pressure until ¼ to ½ turn below surface, driving tang towards bottom of the hole.



TANG REMOVAL

Remove tool and sit back on top of tang. Tap down sharply. Do not try to twist tang off.

*For spark plugs and large fine threads, use long nose pliers and pull tang out.

RE-ORDERING

Specify only genuine replacement inserts. These inserts will fit any older style repair kits you may have. But other brand inserts won't work with our uniquely simple tooling.

PRODUCT OF AUSTRALIA

*For spark plugs and large fine threads, use long nose pliers and pull tang out.



No. 723 MICRO-ADJUSTABLE "CLICKER" TORQUE WRENCH

Automatically limits desired torque. Torques left or right. Designed with dual standard (ft lb) and metric (cm kg) scales. Ratchet head, spinner wheel, reversing ring. Easy grip handle.

Drive	Range	Increments	Length
1/2"	25-250 ft. lb. 3.5-34.6 mkg	1 ft.lb. 14 mkg	20-1/2

NOTE: Meter Kilogram (mkg) is also known as Meter Kilopad (mkp).

Limited Warranty: The No. 723 is warranted to be free of all defects in material and workmanship for one full year from date of original purchase. For repair or recalibration, please send tool to repair sites indicated in product literature enclosed with your tool. Proof-of-purchase must accompany each request for warranty service.



No. 726 - 728 DUAL SCALE BEAM TORQUE WRENCHES

Professional quality torque wrench. Precision-calibrated scale. Guaranteed to 2% accuracy.

	Drive	Range	Increments	Length
No. 726	3/8"	0-100 in. lb. 0-118.1 cmkp	5 in. lbs. 5.75 cm kp	10-3/8"
No. 727	1/2"	0-150 ft. lb. 0-21.3 mkg	5 ft. lbs. .70 mkg	19-3/8"
No. 728	1/2"	0-200 ft. lb. 0-28.4 mkg	10 ft. lbs. 1.40 mkg	21-3/4"



No. 187 STEERING WHEEL PULLER

This tool is designed to pull steering wheels on all major makes of automobiles. The 5/8" x 4" center screw is equipped with a floating swivel, recessed to prevent damage to horn wire connections. Five (5) sets of side screws provided: 3/8 x 16 (4" long), 5/16 x 18 (4-1/2" long), 5/16 x 24 (3-1/2" long). Two (2) M8 x 1.25 x 80 mm, two (2) 1/4" x 28 x 3. Zinc plated. Packaged in attractive clamshell packaging.



No. 745 STEERING WHEEL LOCK PLATE REMOVER

This tool simplifies the removal and installation of the round wire snap ring which retains the steering wheel lock plate. A great time saver for use on GM and Chrysler cars with either conventional or tilt-type steering wheels. Two (2) adapters included: 9/16 x 18 threads, and 14mm threads.



No. 189 FORGED HARMONIC BALANCER PULLER

This puller is designed to pull balancers, vibration dampers, pulleys and gears with tapped holes. Four slots in yoke allows tool to be used in both two or three hole applications. The removable, floating swivel prevents damage to shaft ends. Includes the necessary side screws with washers, including: three (3) 3/8" - 24 x 2", three (3) 5/16" - 18 x 2", two (2) 3/8 - 16 x 4", three (3) M8 x 1.25 x 80mm. Zinc plated. Yoke is forged from alloy steel, heat-treated. Packaged in attractive clam shell packaging.



No. 388 HARMONIC BALANCER INSTALLER

Properly installs harmonic balancers or drive pulleys that are pressed on the crankshaft. Use with Cal-Van No. 189, Harmonic Balancer Puller/Remover. Includes eight (8) adapters: 7/16" - 20, 9/16" - 18, 12mm - 1.5 (black), 3/4" - 16, 1/2" - 20, 5/8" - 18, 14 mm - 1.5 (black), 16mm - 2.0 (black).



No. 10 TIMING GEAR PULLER

This handy tool pulls timing gears, and all other gears that have tapped holes. The sliding jaws enable the tool to handle gears of all widths. Crossarm is 1" (25mm) square, body is 5" (127mm) long. Side screws 5/16"-18. Center screw and side screws are 6-1/2" (165mm) long. Tool may be used with No. 501 Bearing Splitter.



No. 192 PULLEY PULLER

This tool is designed and built to give you positive pulling power to remove pressed-on one (1) or two (2) groove pulleys on alternators, power steering pumps and alternator bearings. The attached jaws fit over the flange and are locked into position by adjusting thumb screws. Turning down on the center pressure screw produces a powerful, equally distributed pulling force. There are no loose parts on this tool to get lost or misplaced.

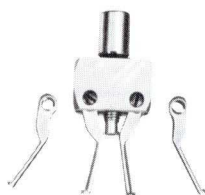


No. 248 SLIDE HAMMER PULLER SET



This versatile 2 - 3 jaw puller will remove gears, seals, grease retainers, pinions, bushings, and bearings. Internal or external pulling action is achieved by reversing the adjusting cone. Shaft threads 5/8" x 18. Includes: 2 Jaw Yoke, 3 Jaw Yoke and 3 Jaws. Does not include attachments.

2-Jaw Capacity: Inside: 1-1/4" to 3-3/8" (32 - 86mm)
Outside: 1" to 4-1/2" (25 - 114mm)
3-Jaw Capacity: Inside: 1-5/16" to 4-3/4" (33 - 121mm)
Outside: 1-1/2" to 4-1/2" (38 - 114mm)



Available Attachments For No. 248:

No. 871 Pilot Bearing Attachment

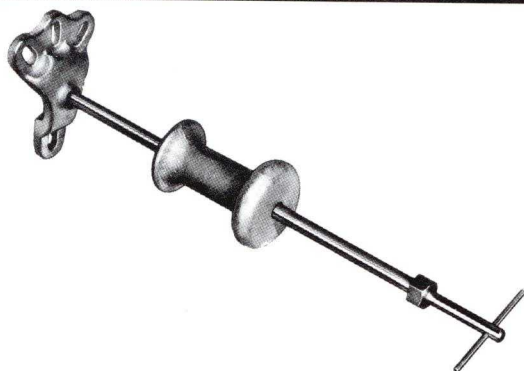
Use to remove flywheel pilot bearings on domestic and import cars, most tractors and trucks and other small bearings. Small jaw capacity: 3/8" to 1-3/8" (9.5-35mm). Large jaw capacity: 1/2" to 1-1/4" (13-32mm). Fits 5/8 x 18 shaft.

No. 872 "Vice Grip" Attachment

Adapts "Vice Grip"-type pliers to No. 248 puller. Black oxide finish. Fits 5/8 x 18 shaft.

No. 873 Hook Attachment

Use to remove dents, seals, bearings and to move structural members in unitized bodies. Black oxide finish. Fits 5/8 x 18 shaft.



No. 498 FLANGE TYPE AXLE PULLER

This tool can be used as a regular wheel puller or hub puller as well as a flange type puller. The bolt circle range is from 4-1/2" to 5-1/2" which covers all major cars & small trucks with flange type axles. The four slots in the adapter allow this tool to be used on either 4, 5, or 6 bolt or stud designs. Has extra heavy 5-1/4 lb. sliding hammer. Shaft threads 5/8" - 18.

No. 498-01 Slide Hammer Flange Adapter

No. 499 Slide Hammer

5/8" x 18 Threads, 5-1/4 lb.

No. 28 UNIVERSAL PILOT BEARING PULLER



Removes bearings or bushings on flywheels, pump, generator, etc. Includes 1/2" to 1-1/4" (13 - 32mm) I.D. capacity jaws.

Available Jaws:

No. 28-6A Jaw for Smaller Bearings

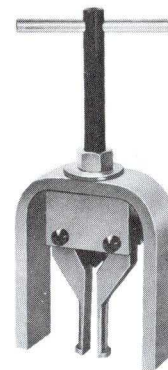
One (1) 3/8" to 1-3/8" (9.5 - 35mm) capacity (2 jaws required).

No. 31 BEARING PULLER

When working space is limited, this type of puller is needed to remove flywheel pilot bearings from automobiles, trucks, and tractors. Only 7-1/2" (190mm) long. Can also be used to pull bearings or bushings from generators and starters. Includes 1/2" to 1-1/4" (13-32mm) I.D. capacity jaws.

Available Jaws:

No. 31-6A Interchangeable Jaws for Smaller Bearings
3/8" to 1-3/8" (9.5 - 35mm) capacity.



No. 235 UNIVERSAL WHEEL PULLER

Sliding puller arms quickly and easily adjust to fit any type hub. With bolt circles up to and including 7-1/2" (190mm) in diameter. The heavy duty forcing screw rides in a sliding bearing to permit use of bumping action on screw drive end or drive handle without damage to the threads. Finished in all satin plate.



No. 526 FLANGE TYPE AXLE & FRONT WHEEL HUB PULLER

For use on domestic and import cars and light trucks. Center screw is 5-1/2" long (140mm) with 5/8 - 18 threads. Range is 3-3/4" to 4-1/2" (95 - 114mm). For use on 4, 5, or 6 bolt or stud design and all non-C lock GM axles. May be used with No. 499, Slide Hammer.

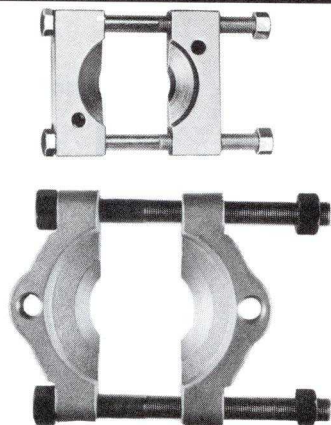


No. 19 STUD REMOVER & INSTALLER

This powerful tool is designed to fit into the hard-to-reach spots and to remove hard-to-turn studs. Capacity from 1/4" to 3/4" (6 - 19mm) diameter. Zinc plated. Roller assembly grips like a pipe wrench. 1/2" drive.

The No. 19 Roller Assembly is designed to wear and is excluded from the CAL-VAN Full Tool Life warranty.





No. 501, 503 BEARING SPLITTERS

For removing generator gears, bearing cones, bearings, and similar parts that ordinary puller jaws cannot reach. Knife edges are flush on one side for easy pulling.

- No. 501** **Bearing Splitter for use with Puller No. 10**
Capacity: 0" to 2-1/4" (57mm). 3/8" - 16 holes.
- No. 503** **Bearing Splitter for use with Puller No. 943**
Capacity: 0" to 4-1/4" (108mm). 5/8" - 18 holes.



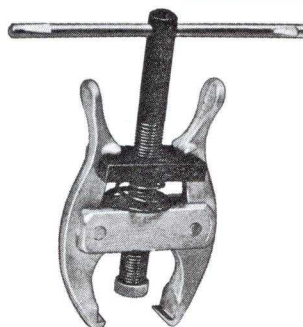
No. 773 STRAIGHT LINE PULLER

Ideal for pulling timing gears, pump shaft, magnet gears or repair of alternators and starters. Malleable iron frame. Forged, heat treated jaws 3" (76mm) long. 6" (152mm) spread.



No. 186 PITMAN ARM PULLER

This heavy duty tool removes pitman arms from late model cars and light trucks. Yoke is forged from high grade alloy steel. Heat treated. 1-5/16" opening, 2-1/2" pull.



No. 548 BATTERY TERMINAL & BEARING PULLER

Two (2) jaw design removes badly corroded battery cable clamps and small bearings. The jaws are designed to grip below the cable clamp to pull battery terminal clamps. Jaw spreads to 1-7/16" (37mm) and maximum reach is 7/8" (22mm).



No. 194 TIE ROD END & PITMAN ARM PULLER

This heavy duty tool removes pitman arms from late model cars and light trucks. Yoke is forged from high grade alloy steel. Heat treated. 1-5/16" opening, 2-1/2" pull.

No. 240, 941-946 2-JAW PULLERS

Designed with forged yokes, heat treated jaws and plated for years of dependable use. Center screws heat treated and finished in black oxide.

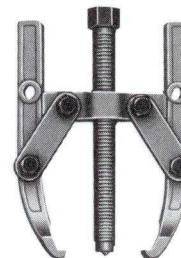
	Reach	Spread	Center Forcing Screw	Capacity
No. 240	3-1/2" Adjustable	4"	3/8" - 24 x 4-3/4"	2 Ton
No. 941	3-1/2" Reversible	6"	9/16" - 20 x 6-3/8"	5 Ton
No. 942	5-1/2" Adjustable	7"	9/16" - 20 x 6-3/8"	5 Ton
No. 943	5-1/2" Adjustable	9"	11/16" - 18 x 8-3/8"	7 Ton
No. 944	9" Reversible	10"	11/16" - 18 x 8-3/8"	7 Ton
No. 945	11" Adjustable	12"	13/16" - 16 x 12"	13 Ton
No. 946	15" Adjustable	15"	13/16" - 16 x 12"	13 Ton



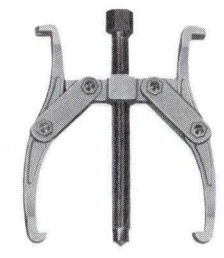
No. 240



No. 941



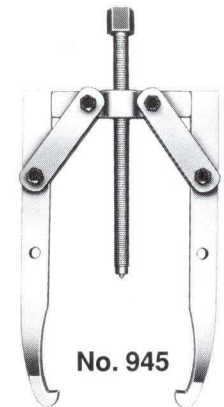
No. 942



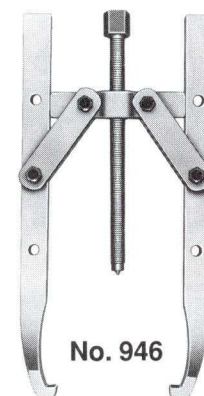
No. 943



No. 944



No. 945



No. 946

No. 951 - 956

2 or 3 JAW COMBINATION PULLERS

These versatile Combination Pullers may be converted into either a 2 or 3 jaw puller simply by changing the jaws on the yoke. All pullers have standard threads, contrasting zinc and black oxide finish. Yoke and jaws are forged. All parts are heat-treated.



No. 951



No. 952



No. 953



No. 955



No. 954



No. 956

	Reach	Spread	Center Forcing Screw	Capacity
No. 951	3-1/2" Reversible	7"	9/16" - 20 x 6-3/8"	5 Ton
No. 952	5-1/2" Adjustable	8"	9/16" - 20 x 6-3/8"	5 Ton
No. 953	5-1/2" Reversible	10"	11/16" - 18x8-3/8"	7 Ton
No. 954	9" Adjustable	11"	11/16" - 18 x 8-3/8"	7 Ton
No. 955	11" Adjustable	14"	13/16" - 16 x 12"	13 Ton
No. 956	15" Adjustable	17"	13/16" - 16 x 12"	13 Ton



No. 134 3-JAW PULLER

This 3-jaw puller gives added stability where needed. Ideal for removing motor, magnet and generator bearings and gears.

Reach	Spread	Center Forcing Screw	Capacity
3-1/2"	4"	3/8" - 24 X 4-1/4"	2 Ton

REFERENCE

NUMERICAL REFERENCE



Part No.	Page No.	Pkg. Type	Card Size	Wt. Ea.	Cubic Ft. Ea.
6	28	CD	L	0.19	0.029
7	29	CD	G	0.44	0.048
10	34,117	PO	K	2.31	0.024
14	45	CD	G	0.63	0.048
15	45	CD	G	0.44	0.048
18	30	CD	L	0.44	0.026
19	119	BX		1.19	0.007
20	92	CD	B	0.06	0.009
21	68	CD	F	1.44	0.061
22	66	CD	N	2.63	0.058
23	92	CD	B	0.06	0.007
24	92	CD	K	0.13	0.013
25	92	CD	K	0.19	0.016
27	92	CD	C	0.25	0.011
28	118	BX		3.94	0.045
28-6A	118	BG		0.06	0.005
29	59	PO	C	2.19	0.033
30	59	PO	C	1.5	0.033
31	119	BX		2.38	0.022
31-6A	119	PO		0.06	0.005
32	29	CD	F	0.38	0.028
33	84	CD	K	0.81	0.029
34	76	CD	K	0.13	0.022
35	76	CD	C	0.25	0.017
37	76	CD	C	0.19	0.033
39	76	CD	G	0.31	0.073
40	73	CD	B	0.13	0.007
41	71	CD	L	0.69	0.018
43	71	CD	A	0.06	0.007
45	71	CD	A	0.06	0.005
46	71	CD	A	0.06	0.004
47	72	CD	A	0.06	0.004
50	100	BG		1.44	0.097
51	28	CD	K	0.31	0.023
53	77	CD	C	0.38	0.024
54	13	CD	J	0.13	0.015
55	25	CD	L	0.44	0.038
56	25	BX		2.63	0.086
59	48	CD	F	1	0.023
60	95	CD	B	0.06	0.002
61	10	CD	L	0.44	0.06
64	14	CD	A	0.19	0.008
66	13	CD	B	0.06	0.009
67	10	CD	C	0.25	0.03
67-01	10,11	CD	A	0.03	0.004
68	11	CD	C	0.19	0.022
68-01	11	CD	A	0.06	0.004
69	12	CD	E	0.5	0.042
70	11	CD	L	0.437	0.047
71	12	CD	J	0.19	0.025
73	11	CD	C	0.25	0.031
74	13	CD	B	0.06	0.015
75	11	CD	A	0.06	0.006
76	25	CD	L	0.56	0.05
90	114	CD	B	0.19	0.009
91	114	CD	B	0.25	0.01
92	114	CD	C	0.44	0.019
93	114	CD	C	0.69	0.021
94	114	CD	C	0.69	0.02
95	114	CD	C	0.81	0.011
96	114	CD	C	0.81	0.022
97	114	CD	C	0.75	0.024
98	114	PO		1.31	0.029
99	114	PO		2.25	0.053
100	114	PO		3.69	0.054

Part No.	Page No.	Pkg. Type	Card Size	Wt. Ea.	Cubic Ft. Ea.
101	13	CD	G	0.69	0.048
102	13	CD	L	0.44	0.026
110	100	CD	F	0.31	0.022
111	100	CD	F	0.31	0.028
112	100	CD	F	0.38	0.038
113	100	CD	F	0.69	0.056
114	106,107	CD	AA	0.06	0.002
114-07	106	CD	AA	0.06	0.001
114-09	106	CD	AA	0.06	0.001
114-10	106	CD	AA	0.06	0.001
114-15	106	CD	AA	0.06	0.001
114-20	106	CD	AA	0.06	0.001
114-25	106	CD	AA	0.06	0.001
114-27	106	CD	AA	0.06	0.001
114-30	106	CD	AA	0.06	0.001
114-8	106	CD	AA	0.06	0.001
115	107	CD	A	0.19	0.009
115-1	104,107	CD	AA	0.06	0.003
115-2	107	CD	AA	0.06	0.001
115-3	107	CD	AA	0.06	0.001
115-4	107	CD	AA	0.06	0.001
115-5	107	CD	AA	0.06	0.001
115-6	107	CD	AA	0.06	0.001
115-7	107	CD	AA	0.06	0.001
116	110	CD	A	0.19	0.008
116-2	110	CD	AA	0.06	0.001
116-3	110	CD	AA	0.06	0.001
117	110	CD	B	0.44	0.012
117-1	110	CD	AA	0.13	0.003
117-2	110	CD	BB	0.19	0.003
117-3	110	CD	BB	0.19	0.003
118	111	CD	B	0.25	0.01
118-2	111	CD	AA	0.06	0.001
118-3	111	CD	AA	0.06	0.001
118-4	111	CD	AA	0.06	0.001
118-5	111	CD	AA	0.06	0.001
118-6	111	CD	AA	0.06	0.001
119	111	CD	B	0.44	0.003
119-1	111	CD	AA	0.13	0.003
119-2	111	CD	AA	0.06	0.002
119-3	111	CD	BB	0.19	0.002
120	28	CD	A	0.13	0.007
121	110	CD	AA	0.13	0.009
123	12	CD	A	0.06	0.005
124	13	CD	A	0.06	0.001
126	98	BU		1.75	0.033
127	72	BX		1.38	0.07
128	77	CD	A	0.06	0.004
134	122	CD	G	1.38	0.034
135	100	CD	B	0.19	0.001
136	15	CD	A	0.125	0.006
137	15	CD	B	0.5	0.0106
138	14	CD	F	0.63	0.043
139	77	CD	B	0.06	0.01
140	35	CD	G	0.25	0.071
141	35	BU		0.06	0.001
142	14	CD	J	0.19	0.022
143	14	CD	C	0.25	0.031
144	15	CD	A	0.25	0.008
145	14	CD	L	0.5	0.051
146	15	CD	A	0.19	0.007
147	88	CD	L	0.75	0.04
148	88	CD	C	0.31	0.017
148-5	88	CD	A	0.06	0.006

Part No.	Page No.	Pkg. Type	Card Size	Wt. Ea.	Cubic Ft. Ea.
149	88	CD	C	0.31	0.017
151	86	CD	A	0.25	0.009
152	86	CD	B	0.25	0.013
153	87	BX		2.44	0.028
154	86	CD	L	0.63	0.042
159	103	CD	B	0.06	0.004
160	86	CD	L	0.81	0.093
162	87	PO		1.88	0.061
163	87	BX		2.31	0.027
165	103	CD	B	0.06	0.005
168	103	CD	B	0.06	0.005
169	10	CD	B	0.06	0.009
173	82	CD	K	0.25	0.054
174	81	CL		1.56	0.053
176	82	CD	B	0.31	0.016
177	82	CD	B	0.31	0.016
178	83	CD	F	0.5	0.036
179	83	CD	F	0.56	0.056
180	83	CD	B	0.13	0.011
181	83	CD	L	0.5	0.041
182	67	BU		0.144	0.076
183	97	CD	B	0.75	0.02
184	36	CD	B	0.19	0.01
185	36	CD	B	0.13	0.009
186	67,120	CD	E	2.13	0.014
187	116	PO	G	1.88	0.027
188	36	CD	N	2.13	0.011
189	33,117	PO	G	2.31	0.037
190	67	CD	M	1.88	0.061
191	67	CD	M	1.88	0.045
192	34,117	CD	L	2.13	0.023
193	34	CD	K	1.13	0.009
194	67,120	CD	K	1.06	0.02
195	34	CD	K	1.94	0.042
198	37	BG		1.31	0.032
199	36	BG		1.5	0.014
200	68	BX		13.56	0.26
203	68	BX		2.31	0.052
217	16	CD	A	0.13	0.005
218	16	CD	A	0.25	0.008
219	16	CD	A	0.125	0.005
220	16	CD	A	0.1875	0.006
222	17	CD	A	0.25	0.007
223	18	CD	A	0.06	0.002
225	93	CD	C	0.06	0.007
226	93	CD	F	0.5	0.028
227	18	CD	B	0.13	0.008
230	16	CD	A	0.19	0.007
233	17	CD	B	0.19	0.007
234	18	CD	A	0.13	0.005
235	119	BX		9.38	0.154
236	93	CD	F	1.5	0.056
238	10	CD	B	0.19	0.01
239	18	CD	A	0.06	0.002
240	121	CD	E	0.94	0.035
246	55	CD	E	0.19	0.043
247	55	CD	B	0.25	0.008
248	118	BX		6.88	0.157
252	98	CD	D	0.25	0.011
253	98	CD	C	0.56	0.021
254	72	CD	C	1	0.017
255	61	BU		0.5	0.029
256	61	CD	C	0.5	0.024
257	62	BX		1.5	0.02





NUMERICAL REFERENCE

Part No.	Page No.	Pkg. Type	Card Size	Wt. Ea.	Cubic Ft. Ea.
258	62	BX		2.94	0.032
259	99	BU		2.19	0.024
260	99	BU		3.19	0.026
261	99	BU		0.75	0.008
262	99	BU		1.06	0.009
264	83	CD	C	0.06	0.028
265	84	CD	C	0.13	0.026
266	84	CD	C	0.13	0.026
267	48	CD	F	1.13	0.019
268	54,88	CD	C	0.44	0.011
269	48	CD	B	0.19	0.013
270	49	CD	L	0.38	0.034
272	49	CD	C	0.25	0.011
273	49	CD	C	0.38	0.015
274	55	CD	D	0.19	0.03
275	49	CD	D	0.38	0.015
276	49	CD	D	0.25	0.015
277	54	CD	C	0.5	0.015
278	50	CD	C	0.31	0.017
279	50	CD	C	0.31	0.015
280	50	CD	C	0.31	0.015
281	59	BU		0.38	0.043
282	72	BU		1.06	0.015
283	93	CD	F	0.63	0.025
285	93	CD	B	0.06	0.005
286	94	CD	F	0.31	0.019
287	93	CD	B	0.06	0.004
288	17	CD	A	0.06	0.005
289	17	CD	A	0.06	0.005
290	17	CD	A	0.25	0.008
292	50	CD	B	0.13	0.003
293	50	CD	C	0.19	0.01
294	48	CD	C	0.56	0.015
295	51	CD	C	0.44	0.022
297	46	CD	L	1	0.021
298	46	CD	M	1.19	0.028
299	54	CD	A	0.19	0.004
304	97	CD	E	0.38	0.014
307	91	CD	F	0.44	0.044
308	91	CD	F	0.69	0.044
309	91	CD	F	1.13	0.044
310	66	BU		1.69	0.015
311	66	BU		1.69	0.018
312	66	BU		1.88	0.02
313	66	BU		1.94	0.021
314	66	BU		2	0.028
315	66	BU		2.19	0.03
316	66	BU		2.5	0.043
317	66	BU		3	0.051
318	66	BU		3.81	0.067
319	66	BU		3.06	0.051
320	65	BU		1.63	0.016
321	65	BU		2.69	0.015
322	66	BU		0.88	0.021
323	66	BU		2.94	0.041
324	66	BU		2.44	0.032
325	66	BU		2.94	0.041
326	66	BU		2.06	0.023
327	66	BU		2.25	0.027
328	66	BU		2.06	0.025
340	105	CD	E	0.63	0.014
341	106	CD	A	0.19	0.007
342	106	CD	A	0.19	0.007
343	106	PO	C	3.25	0.022

Part No.	Page No.	Pkg. Type	Card Size	Wt. Ea.	Cubic Ft. Ea.
344	106	CD	C	0.38	0.012
345	106	CD	C	0.56	0.014
346	106	CD	C	0.94	0.017
347	106	CD	C	1.31	0.019
349	78	CD	C	0.13	0.017
350	95	CD	C	0.31	0.022
351	79	CD	C	0.25	0.023
352	96	CD	C	0.31	0.023
353	77	CD	C	0.13	0.011
354	77	CD	C	0.19	0.011
355	77	CD	L	0.25	0.022
356	96	CD	K	0.25	0.02
356-1	96	CD	A	0.06	0.002
357	53	CD	C	0.38	0.033
357-1	53	CD	A	0.06	0.01
358	53	CD	C	0.25	0.015
358-1	53	CD	A	0.06	0.006
360	38	CD	M	0.94	0.091
361	38	CD	K	0.25	0.02
361-01	38	CD	K	0.25	0.02
361-02	38	CD	K	4	0.02
362	52	CD	C	0.25	0.022
363	52,53	CD	A	0.06	0.005
363-01	52,53	CD	A	0.06	0.005
363-02	52,53	CD	A	0.06	0.005
364	38	BX		2.88	0.028
365	38	BG		0.06	0.001
368	38	BX		2.94	0.071
368-1	38	BG		0.06	0.002
369	48	CD	B	0.19	0.011
370	111	PO		1.31	0.045
372	114	CD	A	0.06	0.008
376	37	CD		0.83	0.177
377	37	CD		0.93	0.194
378	37	CD		0.98	0.197
379	37	CD		1.156	0.337
380	37	CD		1.25	0.332
381	72	BX		0.63	0.111
382	52	CD		0.21	0.061
383	52	CD		0.31	0.076
387	37,52	BG		0.69	0.016
388	33,117	PO		2.13	0.02
389	37	CD	E	0.5	0.0319
390	52	CD		0.13	0.022
391	52	CD		0.13	0.022
392	52	CD		0.19	0.027
393	52	CD		0.19	0.031
394	37,52	CD		0.81	0.194
395	37,52	CD		0.75	0.21
396	37,52	CD		0.88	0.23
397	37,52	CD		1.13	0.365
399	73	CD	B	0.13	0.009
400	73	CD	F	0.44	0.026
401	73	CD	K	0.25	0.014
402	73	CD	A	0.13	0.008
403	97	CD	D	0.63	0.03
404	73	CD	J	0.25	0.013
405	74	CD	K	0.19	0.02
406	79	CD	C	0.19	0.022
407	79	CD	Q	1.31	0.081
409	79	CD	M	0.81	0.036
410	79	CD	Q	2.13	0.071
411	74	CD	J	0.38	0.011
413	103	CD	D	0.25	0.196

Part No.	Page No.	Pkg. Type	Card Size	Wt. Ea.	Cubic Ft. Ea.
414	101	CD	C	0.38	0.011
415	102	BX		1.25	0.026
417	101	CD	L	1.19	0.023
418	102	CD	L	1.19	0.022
419	41	CD	E	0.5	0.075
420	102	CD	D	0.38	0.017
421	102	CD	D	0.38	0.017
422	101	CD	C	0.44	0.011
423	101	CD	C	0.44	0.01
425	101	CD	C	0.25	0.007
428	102	CD	D	0.44	0.017
429	102	CD	D	0.44	0.017
430	113	BU		0.06	0.001
431	113	BU		0.06	0.001
432	113	BU		0.06	0.001
433	113	BU		0.06	0.001
434	113	BU		0.13	0.001
438	113	CD	B	0.25	0.007
439	112	CD	J	0.31	0.013
440	112	CD	J	0.44	0.014
441	112	CD	E	0.31	0.012
441-1	112	CD	AA	0.06	0.001
441-2	112	CD	AA	0.06	0.001
441-3	112	CD	AA	0.06	0.001
441-4	112	CD	AA	0.06	0.001
441-5	112	CD	AA	0.06	0.001
442	20	BX		0.44	0.007
443	20	BG		0.06	0.006
444	20	BG		0.06	0.006
445	20	BG		0.06	0.006
446	20	PO		0.06	0.006
447	20	BX		0.63	0.007
449	22	CD	A	0.2	0.002
450	41	CD	L	0.81	0.024
452	42	CD	C	0.44	0.014
454	10,20	CD	C	0.19	0.017
454-A	10,20	CD	AA	0.06	0.002
456	10,20	CD	C	0.13	0.015
457	9	CD	A	0.13	0.011
459	21	CD	E	0.13	0.018
461	20	CD	K	0.13	0.01
462	21	CD	C	0.13	0.016
463	21	CD	C	0.19	0.017
464	21	CD	C	0.19	0.017
465	21	CD	C	0.19	0.017
466	20	CD	F	0.5	0.039
467	9	CD	A	0.13	0.011
468	29	CD	A	0.25	0.009
469	29	CD	K	0.19	0.015
470	57	CD	A	0.31	0.009
471	57	CD	A	0.31	0.009
472	57	CD	B	0.63	0.013
473	57	CD	A	0.31	0.009
474	57	CD	A	0.31	0.009
475	57	CD	A	0.31	0.009
476	57	CD	B	0.88	0.013
489	61	CD	A	0.19	0.008
490	64	CD	M	0.69	0.048
491	80	CD	B	0.44	0.012
494	80	CD	B	0.38	0.012
495	80	BX		3.81	0.129
498	51,74,118	BX		4.19	0.443
498-0151,74,118		BU		1.88	0.035
499	51,63,64	BX		7	0.16
	74, 118				



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Part No.	Page No.	Pkg. Type	Card Size	Wt. Ea.	Cubic Ft. Ea.
500	70	BX		6.25	0.277
501	120	BX		1.56	0.009
502	70	BX		2.31	0.206
503	120	BX		4.69	0.032
504	70	CD	E	0.94	0.064
505	61	CD	C	0.19	0.043
506	70	CD	M	1.17	0.103
507	70	CD	M	1.44	0.034
509	70	CD	A	0.50	0.013
510	69	BX		3.63	0.103
512	69	BX		5.94	0.125
515	27	CD	A	0.38	0.011
516	27	CD	A	0.25	0.012
517	27	CD	J	0.44	0.022
519	27	CD	D	0.88	0.03
520	90	CD	J	0.19	0.015
520-01	90,91	BG		0.06	0.001
520-02	90	BG		0.06	0.001
520-03	90	BG		0.06	0.001
520-04	90	BG		0.06	0.001
520-05	90	BG		0.06	0.001
520-06	90	BG		0.06	0.001
520-07	90	BG		0.06	0.001
520-08	90	BG		0.06	0.001
520-09	90	BG		0.06	0.001
520-10	90	BG		0.06	0.001
520-11	90	BG		0.06	0.001
520-12	90	BG		0.06	0.001
520-13	90	BG		0.06	0.001
520-14	90	BG		0.06	0.001
520-15	90	BG		0.06	0.001
520-16	90	BG		0.06	0.001
520-17	90	BG		0.06	0.001
520-18	90	BG		0.06	0.001
520-19	90	BG		0.06	0.001
520-20	90	BG		0.06	0.001
520-21	90	BG		0.06	0.001
520-22	90	BG		0.06	0.001
520-23	90	BG		0.06	0.001
520-24	90	BG		0.06	0.001
520-25	90	BG		0.06	0.001
520-26	90	BG		0.06	0.001
520-27	90	BG		0.06	0.001
520-28	90	BG		0.06	0.001
520-29	90	BG		0.06	0.001
520-30	90	BG		0.13	0.001
520-31	90	BG		0.13	0.001
520-32	90	BG		0.25	0.001
520-33	90	BG		0.06	0.001
520-34	90	BG		0.06	0.001
520-35	90	BG		0.06	0.001
520-36	90	BG		0.06	0.001
520-37	90	BG		0.06	0.001
520-38	90	BG		0.06	0.001
520-39	90	BG		0.06	0.001
520-40	90	BG		0.06	0.001
520-41	90	BG		0.06	0.001
520-42	90	BG		0.06	0.001
520-43	90	BG		0.06	0.001
520-44	90	BG		0.25	0.001
520-45	90	BG		0.06	0.001
520-46	90	BG		0.13	0.001
520-47	90	BG		0.06	0.001
520-48	90	BG		0.06	0.001

Part No.	Page No.	Pkg. Type	Card Size	Wt. Ea.	Cubic Ft. Ea.
520-49	90	BG		0.06	0.001
520-50	90	BG		0.06	0.001
520-51	90	BG		0.13	0.001
520-52	90	BG		0.06	0.001
521	88,89	CD	L	0.56	0.025
522	89	CD	C	0.31	0.014
523	89	CD	L	1.19	0.03
524	89	BX		3.5	0.163
526	51,119	BX		3.13	0.052
529	12	CD	A	0.13	0.009
530	12	CD	A	0.13	0.009
531	12	CD	A	0.13	0.009
532	12	CD	A	0.13	0.009
533	12	CD	A	0.19	0.01
534	12	CD	A	0.19	0.01
537	6	BX		1.63	0.177
539	6	CD	L	0.63	0.045
540	6	CD	K	0.31	0.026
541	6	CD	K	0.31	0.026
546	6	CD	M	0.38	0.122
547	6	CD	C	0.44	0.023
548	7,120	CD	D	0.5	0.016
549	7	CD	C	0.56	0.036
551	7	CD	B	0.19	0.026
553	7	CD	B	0.25	0.02
554	7	CD	B	0.19	0.024
555	8	CD	K	0.19	0.024
557	8	CD	D	0.13	0.026
558-B	8	CD	G	0.5	0.055
558-R	8	CD	G	0.5	0.055
559	8	CD	B	0.25	0.007
560	41	BX		1.94	0.091
560-1	41	BU		1.19	0.028
561	30	CD	C	0.13	0.028
562	39	CD	G	1.56	0.059
562-1	39	BG		0.06	0.001
562-2	39	BG		0.06	0.001
563	39	CD	G	0.69	0.048
563-1	39	PO		0.19	0.022
565	35	CD	M	1.25	0.061
566	39	CD	C	0.25	0.022
567	40	CD	E	0.69	0.027
569	40	CD	E	0.69	0.071
569-T	40	CD	E	0.81	0.071
570	40	BX		1.63	0.063
571	31	CD	K	0.63	0.016
572	40	BX		0.31	0.016
573	31	CD	L	0.69	0.092
574	32	BX		7.94	0.373
575	32	BX		6.25	0.216
575-1	32	BG		0.19	0.002
575-2	32	BG		0.25	0.005
575-3	32	BG		0.25	0.005
576	39	CD	E	0.38	0.043
577	32	BX		0.63	0.027
578	31	BX		1.19	0.024
579	31	CD	M	1.19	0.114
581	29	BX		2.81	0.055
582	35	PO		2.44	0.038
584	34	CD	K	0.94	0.032
589	35	BX		2.06	0.072
592	84	CD	E	0.31	0.074
593	31	CD	J	0.31	0.012
595	81	BX		3.81	0.109

Part No.	Page No.	Pkg. Type	Card Size	Wt. Ea.	Cubic Ft. Ea.
596	80,81	CD	A	0.13	0.007
597	80,81	CD	A	0.13	0.007
598	80,81	CD	A	0.06	0.004
599	80,81	CD	A	0.13	0.005
601	9	BU		0.63	0.04
602	9	BU		0.63	0.048
603	9	BU		0.69	0.041
604	9	BU		0.63	0.043
605	9	BU		0.63	0.041
608	15	BU		0.25	0.005
609	9	BU		0.63	0.045
611	9	BU		0.69	0.051
612	9	BU		0.56	0.024
614	9	BU		0.56	0.03
617	9	BU		0.63	0.036
618	9	BU		0.56	0.045
619	97	BU		0.88	0.015
620	97	CD	B	0.31	0.01
621	97	CD	C	0.63	0.021
622	97	BU		1.19	0.021
624	92	CD	F	0.38	0.035
626	95	CD	J	0.13	0.002
627	94	CD	C	0.06	0.011
628	94	CD	C	0.13	0.007
630	95	CD	B	0.06	0.005
633	95	CD	K	0.13	0.008
637	637	BX		0.13	0.004
640	105	CD	E	0.56	0.021
648	58	CD	B	0.06	0.004
650	104	CD	D	1.06	0.028
650-2	104	CD	AA	0.06	0.001
650-3	104	CD	AA	0.06	0.002
650-4	104	CD	AA	0.06	0.001
650-5	104	CD	AA	0.06	0.001
651	104	PO	C	1.31	0.012
657	62	BX		0.94	0.01
667	104	CD	B	0.25	0.006
668	104	CD	C	0.25	0.028
668-1	104	CD	AA	0.06	0.001
668-2	104	CD	AA	0.06	0.001
668-3	104	CD	AA	0.06	0.001
668-4	104	CD	AA	0.06	0.001
680	113	CD	C	0.75	0.01
681	113	CD	C	0.19	0.011
682	113	CD	C	0.31	0.011
683	113	CD	C	0.38	0.011
684	28	CD	C	0.06	0.014
693	15	CD	B	0.06	0.001
694	15	CD	B	0.06	0.001
697	80	CD	F	1.25	0.038
699	80	CD	F	0.94	0.025
702	54	CD	E	0.63	0.053
703	58	CD	B	0.25	0.006
704	58	CD	A	0.13	0.007
705	59	CD	A	0.06	0.007
706	58	CD	A	0.06	0.007
708	78	CD	E	0.25	0.017
709	78	CD	A	0.06	0.002
710	78	CD	E	0.38	0.01
710-1	78	CD	A	0.13	0.005
711	78	CD	C	0.81	0.02
712	96	CD	A	0.13	0.005
713	96	CD	A	0.13	0.006
714	94	CD	F	0.25	0.038





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Part No.	Page No.	Pkg. Type	Card Size	Wt. Ea.	Cubic Ft. Ea.
715	94	CD	F	0.5	0.048
716	92	CD	E	0.13	0.021
717	78	CD	F	0.69	0.04
718	81	CD	L	0.63	0.038
719	68	CD	K	1.31	0.041
720	68	CD	K	1.31	0.041
721	68	CD	K	1.31	0.041
722	58	CD	A	0.19	0.01
723	116	BX		2.94	0.073
724	66	CD	B	0.31	0.008
726	116	BX		0.63	0.046
727	116	BX		2.13	0.118
728	116	BX		2.56	0.121
734	42	CD	K	0.13	0.014
735	8	CD	K	0.13	0.016
736	42	CD	C	0.25	0.022
737	42	BX		0.44	0.028
738	8	BX		0.31	0.025
740	74	CD	J	0.13	0.017
742	91	CD	B	0.56	0.015
743	64	CD	K	0.88	0.051
744	87	BX		3.38	0.028
745	116	CD	E	1.19	0.023
755	53	CD	C	0.25	0.017
757	41	CD	L	0.5	0.057
760	9	CD	E	0.31	0.005
761	86	CD	D	0.44	0.028
761-1	86	BG		0.06	0.001
762	54	CD	C	0.19	0.011
763	54	CD	A	0.06	0.011
764	62	CD	L	1.06	0.03
765	62	CD	L	1.31	0.034
766	30	PO	L	1.31	0.056
767	30	CD	C	0.06	0.015
768	30	CD	K	0.31	0.03
772	33	SP	L	0.75	0.038
773	38,120	SP	G	0.19	0.04
774	98	CD	L	1.56	0.036
775	98	CD	P	2.63	0.071
780	113	CD	C	0.56	0.012
781	113	CD	C	0.19	0.01
782	113	CD	C	0.19	0.01
783	113	CD	C	0.31	0.012
785	43	CD	K	0.31	0.03
786	43	CD	K	0.31	0.03
787	43	CD	K	0.38	0.03
788	43	CD	K	0.38	0.034
789	43	CD	K	0.38	0.034
790	43	CD	K	0.38	0.03
791	43	CD	K	0.5	0.028
792	43	CD	K	0.5	0.034
793	43	CD	K	0.31	0.035
794	43	CD	K	0.38	0.035
795	43	CD	K	0.56	0.035
796	43	CD	K	0.44	0.035
797	43	CD	K	0.44	0.035
798	43	CD	K	0.50	0.035
800	98	CD	C	0.69	0.014
801	98	CD	C	1.31	0.017
804	58	CD	B	0.13	0.005
806	25	CD	L	1.38	0.047
808	69	CD	A	0.13	0.007
809	70	CD	A	0.25	0.008
810	70	CD	C	0.75	0.011

Part No.	Page No.	Pkg. Type	Card Size	Wt. Ea.	Cubic Ft. Ea.
811	101	CD	G	0.44	0.048
812	71	CD	B	0.31	0.011
814	46	CD	K	0.56	0.037
816	26	CD	G	0.94	0.058
817	26	CD	A	0.06	0.007
818	26	CD	A	0.06	0.007
819	46	CD	E	0.75	0.057
820	46	CD	E	0.63	0.057
823	18	CD	A	0.06	0.001
824	18	BX		4.31	0.21
827	51	CD	G	1.38	0.051
829	69	CD	K	1.63	0.042
830	69	CD	K	1.75	0.042
831	69	CD	K	1.5	0.049
832	84,99	BX		0.19	0.053
833	84,99	BX		0.19	0.021
835	26	PO	L	1.44	0.041
836	27	PO	G	1.06	0.064
839	65	CD	E	1.38	0.069
840	65	CD	E	1.56	0.072
841	79	CD	C	0.38	0.014
842	64	CD	C	0.19	0.015
843	28	CD	J	0.5	0.03
844	82	CD	A	0.06	0.01
845	26	BG		0.13	0.008
846	27	BG		0.13	0.005
850	100	BG		1.75	0.016
852	64	BG		0.88	0.052
854	21	CD	C	0.06	0.016
855	56	BX		3.88	0.611
857	26	CD	G	0.94	0.056
858	26	CD	A	0.44	0.01
859	26	CD	A	0.19	0.008
860	26	BU	A	0.19	0.001
861	56	BG		1.94	0.029
862	56	PO		0.81	0.047
864	56	PO		0.19	0.002
865	56	PO		0.56	0.006
869	56	BG		2.06	0.049
870	49	CD	L	0.25	0.035
871	118	PO		1.19	0.028
872	118	PO	B	0.19	0.012
873	118	PO	B	0.44	0.012
875	55	CD	G	0.38	0.054
876	33	BX		6.31	0.22
876-1	33	BG		0.19	0.005
876-2	33	BG		0.25	0.008
876-3	33	BG		0.25	0.007
880	114	CD	E	0.5	0.041
880-1	114	CD	A	0.25	0.008
880-2	114	CD	A	0.06	0.004
880-3	114	CD	A	0.06	0.004
880-4	114	CD	A	0.06	0.005
880-5	114	CD	A	0.06	0.007
891	45	CD	G	1.25	0.119
892	45	CD	G	1.25	0.119
893	45	CD	G	1.31	0.119
894	46	CD	G	1.13	0.048
900	103	PO	C	0.69	0.022
901	103	CD	B	0.06	0.009
902	103	CD	C	0.13	0.022
903	103	CD	C	0.13	0.022
904	103	CD	C	0.19	0.028
905	103	CD	C	0.25	0.028
906	100	CD	J	0.06	0.004

Part No.	Page No.	Pkg. Type	Card Size	Wt. Ea.	Cubic Ft. Ea.
907	103	CD	C	0.38	0.023
908	104	CD	F	0.31	0.039
910	106	CD	B	0.13	0.007
911	105	CD	E	0.44	0.022
911-10	105	CD	A	0.06	0.001
911-15	105	CD	A	0.06	0.002
911-20	105	CD	A	0.06	0.002
911-25	105	CD	A	0.06	0.002
911-27	105	CD	A	0.06	0.002
911-30	105	CD	A	0.06	0.002
911-40	105	CD	A	0.06	0.002
911-45	105	CD	A	0.13	0.002
911-50	105	CD	A	0.13	0.003
913	108	CD	C	0.44	0.018
913-10	108	CD	A	0.06	0.005
913-15	108	CD	A	0.06	0.005
913-20	108	CD	A	0.06	0.005
913-25	108	CD	A	0.06	0.005
913-27	108	CD	A	0.06	0.005
913-30	108	CD	A	0.06	0.005
913-40	108	CD	A	0.06	0.007
913-45	108	CD	A	0.06	0.007
913-50	108	CD	A	0.06	0.007
914	107	CD	B	0.13	0.005
914-10	107	CD	AA	0.06	0.001
914-15	107	CD	AA	0.06	0.001
914-20	107	CD	AA	0.06	0.001
914-25	107	CD	AA	0.06	0.001
914-27	107	CD	AA	0.06	0.001
914-30	107	CD	AA	0.06	0.001
914-40	107	CD	AA	0.06	0.001
915-3	107	CD	AA	0.06	0.002
915-4	107	CD	AA	0.06	0.001
916	105	CD	A	0.31	0.007
920	109	CD	C	0.56	0.018
921	109	CD	AA	0.06	0.002
922	109	CD	AA	0.06	0.002
923	109	CD	AA	0.06	0.002
925	109	CD	AA	0.06	0.003
926	109	CD	AA	0.13	0.003
927	109	CD	AA	0.13	0.003
928	109	CD	AA	0.13	0.003
929	109	CD	A	0.31	0.009
930	108	CD	C	0.44	0.019
930-1	108	CD	AA	0.06	0.002
930-10	59,108	CD	A	0.25	0.01
930-12	108	CD	AA	0.06	0.003
930-2	108	CD	AA	0.06	0.002
930-3	108	CD	AA	0.06	0.002
930-4	108	CD	AA	0.06	0.002
930-5	108	CD	AA	0.06	0.002
930-6	108	CD	AA	0.06	0.002
930-7	108	CD	AA	0.06	0.003
930-8	108	CD	AA	0.06	0.003
930-9	70,108	CD	AA	0.06	0.003
931	108	CD	AA	0.06	0.003
932	108	CD	C	0.88	0.025
934-01	109,110	CD	AA	0.13	0.002
934-02	109,110	CD	AA	0.13	0.002
934-03	109	CD	AA	0.19	0.002
934-04	110	CD	AA	0.19	0.002
935	109	CD	C	1.38	0.019
936	110	CD	C	1.38	0.019
941	121	CD	G	2.00	0.065
942	121	CD	G	2.25	0.062



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Part No.	Page No.	Pkg. Type	Card Size	Wt. Ea.	Cubic Ft. Ea.	Part No.	Page No.	Pkg. Type	Card Size	Wt. Ea.	Cubic Ft. Ea.
943	121	BX		4.44	0.055	1115	115	CD	Y	0.06	0.002
944	121	BX		4.75	0.055	1116	115	CD	Y	0.06	0.002
945	121	BX		9.56	0.074	1117	115	CD	Y	0.06	0.002
946	121	BX		11.19	0.074	1118	115	CD	Y	0.06	0.002
951	121	CD	G	2.88	0.042	1119	115	CD	Y	0.06	0.002
952	121	CD	G	2.94	0.095	1120	115	CD	Y	0.06	0.002
953	121	BX		6.31	0.055	1121	115	CD	Y	0.06	0.002
954	121	BX		6.75	0.055	1122	115	CD	Y	0.06	0.002
955	121	BX		14	0.152	1123	115	CD	Y	0.06	0.002
956	121	BX		16.5	0.152	1124	115	CD	Y	0.06	0.002
965	63	CD	C	1.0	0.028	1199	60	BU		0.13	0.3888
968	65	CD	K	1.13	0.048	1200	60	CD	B	0.06	0.013
969	65	CD	K	1.0	0.048	1201	60	CD	B	0.06	0.014
970	63	BX		5.44	0.172	1202	60	CD	B	0.06	0.013
971	65	CD	K	1.13	0.048	1203	60	CD	B	0.06	0.013
972	65	CD	K	1.69	0.058	1204	60	CD	B	0.06	0.013
973	62	CD	C	0.44	0.012	1205	60	CD	B	0.06	0.014
974	62	CD	C	0.5	0.012	1206	60	CD	B	0.06	0.015
975	63	CD	C	0.5	0.013	1207	60	CD	B	0.06	0.015
976	63	CD	L	0.63	0.028	1208	60	CD	B	0.06	0.014
977	63	CD	E	1.56	0.057	1209	60	CD	B	0.06	0.014
978	63	BX		8.88	0.372	1210	60	CD	E	0.19	0.0694
979	64	BX		8.06	0.368	1211	60	CD	B	0.06	0.014
980	64	CD	B	0.81	0.02	1212	60	CD	B	0.06	0.014
983	45	CD	K	0.38	0.028	1213	60	CD	B	0.06	0.014
984	45	CD	E	0.44	0.039	1214	60	CD	B	0.06	0.014
985	45	CD	E	0.44	0.039	1215	60	CD	B	0.06	0.014
986	44	CD	G	0.81	0.054	1216	60	CD	B	0.06	0.014
987	46	CD	E	1.19	0.085	1217	60	CD	B	0.06	0.014
990	44	CD	G	0.63	0.051	1218	60	CD	B	0.06	0.015
992	44	CD	G	0.69	0.051	1219	60	CD	B	0.06	0.014
993	44	CD	G	0.75	0.054	1220	60	CD	B	0.06	0.014
994	44	CD	G	0.69	0.054	1221	60	CD	B	0.06	0.014
995	44	CD	G	0.75	0.054	1222	60	CD	B	0.06	0.0154
996	36	PO	C	0.63	0.034	1223	60	CD	B	0.06	0.014
997	36	PO	C	0.5	0.016	1224	60	CD	B	0.06	0.0134
998	36	PO	C	0.5	0.016	1225	60	CD	E	0.19	0.0284
999	44	CD	G	0.81	0.048	1226	60	CD	B	0.06	0.014
1000	23	PO		1.69	0.053	1227	60	CD	B	0.06	0.014
1001	24	PO		2.13	0.032	1228	60	CD	B	0.06	0.014
1002	24	PO		1.06	0.035	1229	60	CD	B	0.06	0.014
1003	24	BX		5.31	0.085	1230	60	CD	B	0.06	0.014
1004	23	BX		4.25	0.085	1231	60	CD	B	0.13	0.016
1005	24	BX		3.75	0.085	1232	60	CD	B	0.13	0.0194
1006	23	BX		8.75	0.571	1233	60	CD	M	0.31	0.0744
1007	22	CD	L	0.63	0.042	1234	60	CD	M	0.44	0.0834
1008	22	CD	L	0.63	0.042	1235	60	CD	M	0.44	0.0884
1009	23	CD	G	1.94	0.059	1236	60	CD	M	0.44	0.097
1010	22	CD		1.06	0.18	1237	61	CD	B	0.25	0.003
1011	22	BX		0.06	0.014	1301	56	CD	B	0.50	0.023
1101	115	CD	X	0.13	0.008	1302	56	CD	B	0.63	0.025
1102	115	CD	X	0.19	0.011	1303	56	CD	B	0.63	0.02
1103	115	CD	X	0.25	0.011	1304	57	CD	B	0.25	0.013
1104	115	CD	X	0.38	0.013	1305	57	CD	A	0.13	0.001
1105	115	CD	X	0.13	0.008	1306	57	CD	A	0.13	0.001
1106	115	CD	X	0.19	0.011	1307	56	CD	A	0.19	0.009
1107	115	CD	X	0.25	0.011	1308	56	CD	A	0.56	0.006
1108	115	CD	X	0.13	0.008	1963	15	CD	L	0.63	0.023
1109	115	CD	X	0.19	0.011	2231		BX		0.4	0.018
1110	115	CD	X	0.25	0.011	2232		BX		0.4	0.018
1111	115	CD	X	0.38	0.013	2233		BX		0.4	0.018
1112	115	CD	X	0.38	0.013	2240		BX		0.4	0.018
1113	115	CD	Y	0.06	0.002	2241		BX		0.4	0.018
1114	115	CD	Y	0.06	0.002						

EXPLANATION KEY:

Weight: Each, Packaged Item, Not Bulk. Pounds.

Cubic Feet: Each, Packaged Item

Card Size: Cal-Van code for carded items, see listing. When no card size is listed, tools may be boxed, bulk, bagged or pouched.

Package Type:

CD = Card
BX = Box
BU = Bulk
BG = Bag
PO = Pouch

Card Sizes:

Card Size Code	Card Dimensions Width x Length	
A	3.25	5.0
B	3.25	7.0
C	3.25	11.75
D	7.0	5.0
E	7.0	7.0
F	3.25	20.0
G	7.0	11.75
J	5.0	5.0
K	5.0	7.0
L	5.0	11.75
M	5.0	15.75
N	5.0	20.0
P	7.0	15.75
Q	7.0	20.0
AA	1.75	3.75
BB	1.75	7.0
X	4.375	7.50 (Fix-A-Thread Card)
Y	1.625	3.25 x 0.75" Deep (Fix-A-Thread Clam Shell)

Catalog photographs, illustrations and descriptions were checked at the time of printing and are believed to be correct. Cal-Van Tools reserves the right to make changes in tool specifications shown in this catalog.

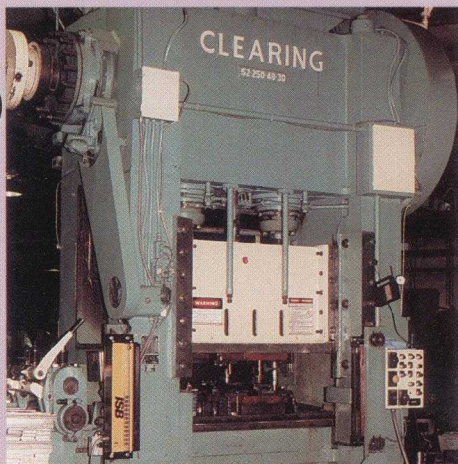




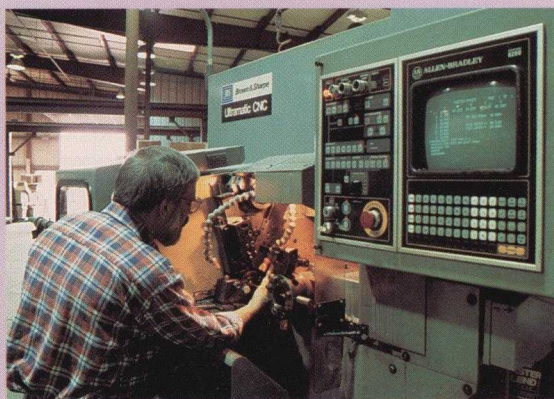
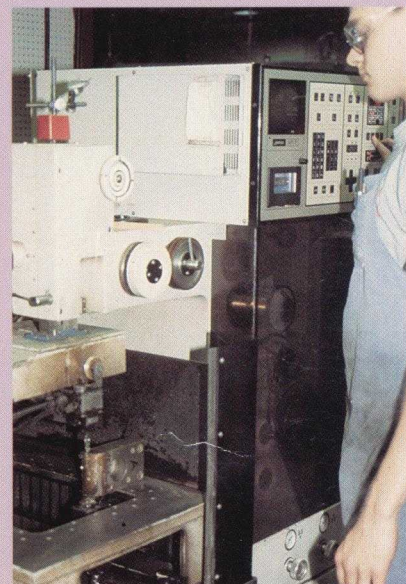
★ Manufacturing
★ Quality
★ Service

For over 50 years, professional mechanics and Do-It-Yourselfers have trusted the Cal-Van name for quality, American made specialty tools.

Today, we are continuing to build upon that reputation. At our modern manufacturing facility in Fremont, Ohio, we research, design and manufacture specialty tools under one roof. Centralization allows us to control every element of production from the procurement of raw materials, to manufacturing, assembly, packaging and final shipment.



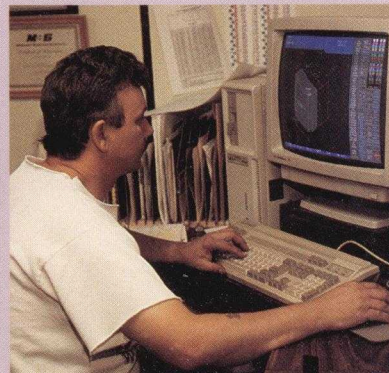
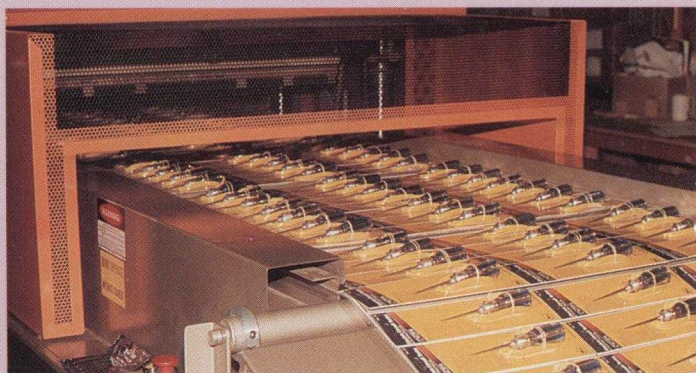
Cal-Van is committed to innovation. Continual improvements in manufacturing techniques and equipment enables Cal-Van to maintain extremely high levels of efficiency. We employ highly skilled tradesmen to operate our CAD / CAM, CNC mills, EDM and other computer operated machinery to produce quality dies and fixtures. Precision machining and quality control are an integral part of delivering a superior tool. These in-house capabilities allow us to respond quickly to the aftermarket's changing needs.



Our design engineers, skilled craftsmen, customer service representatives and sales staff are committed to your satisfaction. We are so confident that our products will perform for you that we stand behind them with a Full Tool Life Warranty.

With your support, we will continue our worldwide commitment to manufacture and distribute high quality, American made specialty tools at competitive prices.

Thank you for purchasing Cal-Van Tools.



Catalog No. 9500

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Supersedes: Catalog No. 9000 & Supplement No. 93-1



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